# Raytec Avigilon Integration User Guide

Integrating Raytec Network Illuminators with Avigilon Unity

Document Revision 3.0

Raytec Global (excluding Americas)
Tel: +44 (0) 01670 520055
Fax: +44 (0)1670 819760
sales@rayteccctv.com

Raytec Americas:
Tel: +1 613 270 9990
Toll Free: +1 888 505 8335
ussales@rayteccctv.com

www.rayteccctv.com

# Table of Contents





Raytec Global (excluding Americas)
Tel: +44 (0) 01670 520055
Fax: +44 (0)1670 819760
sales@rayteccctv.com

Raytec Americas:
Tel: +1 613 270 9990
Toll Free: +1 888 505 8335
ussales@rayteccctv.com

www.rayteccctv.com

Raytec Global (excluding Americas)
Tel: +44 (0) 01670 520055
Fax: +44 (0)1670 819760
sales@rayteccctv.com

Raytec Americas:
Tel: +1 613 270 9990
Toll Free: +1 888 505 8335
ussales@rayteccctv.com

# 1 Introduction

## 1.1 Overview

The Raytec Avigilon Integration provides users of Avigilon Unity the ability to provide event driven control of Raytec IP lamps when alarm events occur within the Avigilon Unity environment.

Raytec IP lamps can be controlled in the following scenarios:

- An alarm occurs in Avigilon Unity.
- An event occurs in a Raytec IP lamp.
    - This event can be handled directly by the Raytec Avigilon Integration.
    - This event can be used to trigger an alarm in Avigilon Unity.

Alarms in Avigilon Unity can be of different types and generated from a number of different sources, including many types of camera events such as motion detection.

Also, in the case where a Raytec IP lamp event occurs, such as photocell becoming active when it gets dark, this event can be used to trigger an alarm within Avigilon Unity which in turn can then control any number of Raytec IP lamps.

Within the Raytec Avigilon Integration environment, Raytec IP lamps will be assigned to groups. Actions can be triggered on an individual lamp or group of lamps when an Avigilon Unity alarm occurs or a lamp event occurs.

The Raytec Avigilon Integration also provides the user with the ability to directly control individual lamps and groups of lamps, as well as launching the web interface for any lamp.

## 1.2 Software Components

The Raytec Avigilon Integration consists of two main software components:

- *Raytec Avigilon Integration (GUI Application)*

  This is the main application used to configure all aspects of the Raytec Avigilon Integration.

- *Raytec Avigilon Service*

  This component runs continuously as a Windows service and provides all the functionality of the Raytec Avigilon Integration.

If the *Raytec Avigilon Service* is not running then Raytec IP lamps will not be controlled by Avigilon Unity alarms. The *GUI application* allows the user to check the status of this service and to start and stop the service if necessary. This service can also be controlled using the standard Windows service control panel applet.

You should only ever have one instance of the *Raytec Avigilon Integration (GUI Application)* and *Raytec Avigilon Service* running on your network. Failure to do this may cause event detection and control actions to work incorrectly.

### 1.3 General Workflow

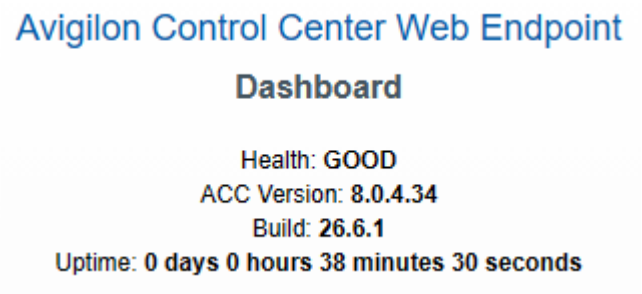
1. Install all of the software components, as detailed in section 1.5
2. In *Avigilon Unity* configure a new user.
   This user will be used in the *Raytec Avigilon Integration* software components to connect to *Avigilon Unity*.
3. In *Raytec Avigilon Integration* add the username and password created in step 2 to the *Raytec Avigilon Service* Avigilon Server login settings.
4. In *Raytec Avigilon Integration* add lamps to your groups.
5. In *Avigilon Unity* configure alarms.
   For alarms that are going to be triggered by lamp events, create an 'External Software Event' alarm. 'External Software Event' alarms should not be auto-acknowledged by *Avigilon Unity*.
6. In *Raytec Avigilon Integration* configure which lamp events (photocell and external input) will trigger *Avigilon Unity* alarms created in step 5. You should only trigger 'External Software Event' alarms.
7. In *Raytec Avigilon Integration* configure trigger events for lamps and groups. Here you can set a group / lamp to do various actions based on Alarms events configured in steps 5 and 6.

## 1.4 Requirements

Firstly, ensure that you have met the system requirements of Avigilon Unity.

***Avigilon Web EndPoint***

The Avigilon Web EndPoint must be present on the Avigilon server. This can be verified by opening a browser and typing https://localhost:8443, you should see the following:




If you have changed the port of the Web EndPoint then you will have to replace 8443 above with the port you have specified.

***Avigilon Unity***

An instance of Avigilon Unity Enterprise* must be accessible on the same local area network as the PC which is running the Raytec Avigilon Integration. The integration may be installed on the same PC which is running Avigilon Unity, or it may be installed on a separate PC.

* Note that Unity Core Edition does not support 3rd party integrations and Unity Standard Edition does not allow you to create alarms and therefore neither can be used with the Raytec Avigilon Integration.

***Illuminator support***

Ensure your illuminator is running the version of firmware specified below or higher to enable use with the *Raytec Avigilon Integration*.

| Illuminator | Minimum supported firmware version |
|---|---|
| Vario IP POE | v1.1.0 |
| Vario2 IP POE | v2.0.1 |
| Vario2 Hybrid IP POE | v3.1.0 |

***Lamp Settings***

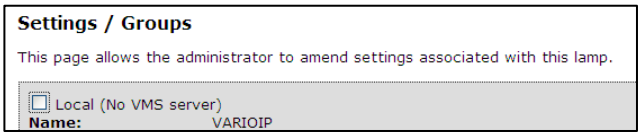
Ensure the lamps that will be controlled by the *Raytec Avigilon Integration* are in *VMS* mode or *VMS + Local* mode.

In *VMS* mode the lamp will not respond autonomously to photocell and telemetry events. The VMS system alone will control the lamp.

In *VMS + Local* mode the lamp will respond to photocell and telemetry events (as configured on its settings page). Any VMS commands sent which are not timed will be automatically set to a timed duration of 30 minutes (3 minutes for deterrent).

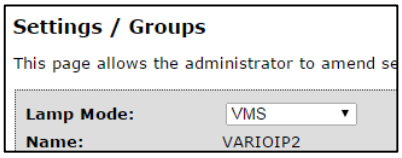
To change the lamp settings, navigate to the lamp settings web page in your browser. This page may look slightly different depending on which firmware version the lamp is running.

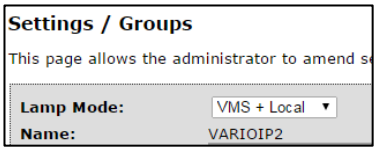
For lamps running firmware v1.1.x:




Ensure the *Local (No VMS server)* checkbox is not checked.

For lamps running firmware v1.2.x and above:




Ensure *VMS* or *VMS + Local* is selected in the combo box.

***Lamp Network IP Address Assignment***

It is important to make sure the lamps and *Avigilon Unity* reside within the same network address range to ensure these components can communicate with each other.

For example, if your *Avigilon Unity* server has the following IP address:

*192.168.2.100*

And the subnet mask is:

*255.255.255.0*

Then your lamp should have its IP address set to:

*192.168.2.N* - where *N* is a value between 0 and 254, excluding 100 (the *Avigilon Unity* server uses this address) and any other addresses already in use on the network.

## 1.5 Installation

Locate and install the Raytec Avigilon Integration:

- *RaytecAvigilonIntegrationInstaller-v3.10.exe*

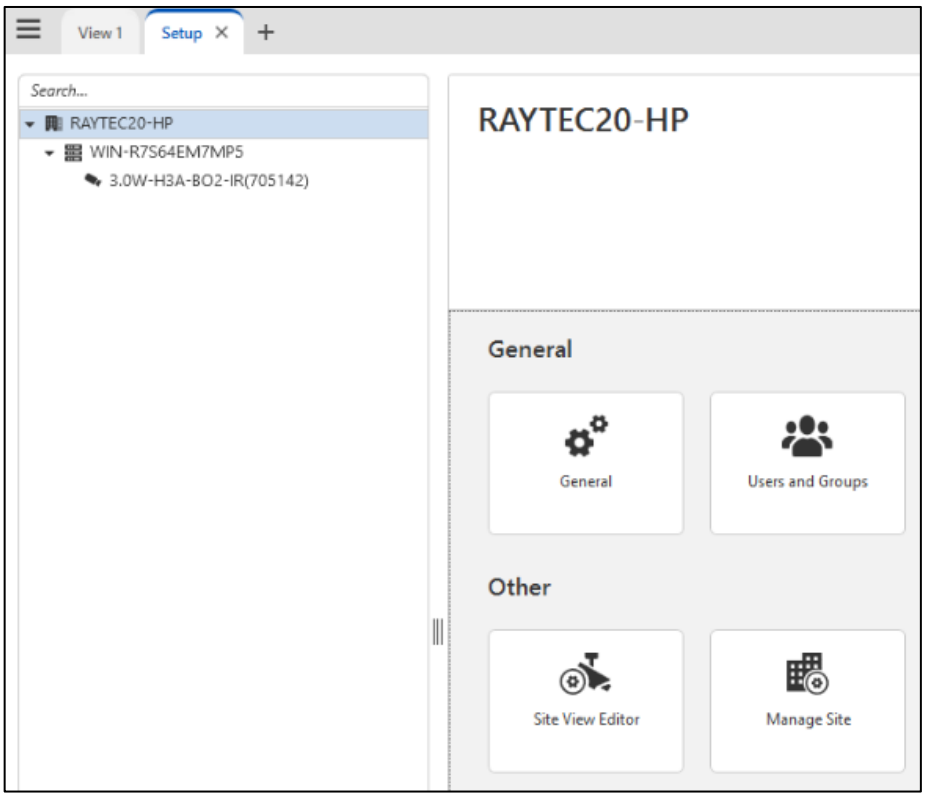
You can install this without having to uninstall an older version of the plugin. Ensure you stop the *Raytec Avigilon Service* prior to doing this, and don't forget to restart it after installing the update.

# 2 Avigilon Unity User Account Details

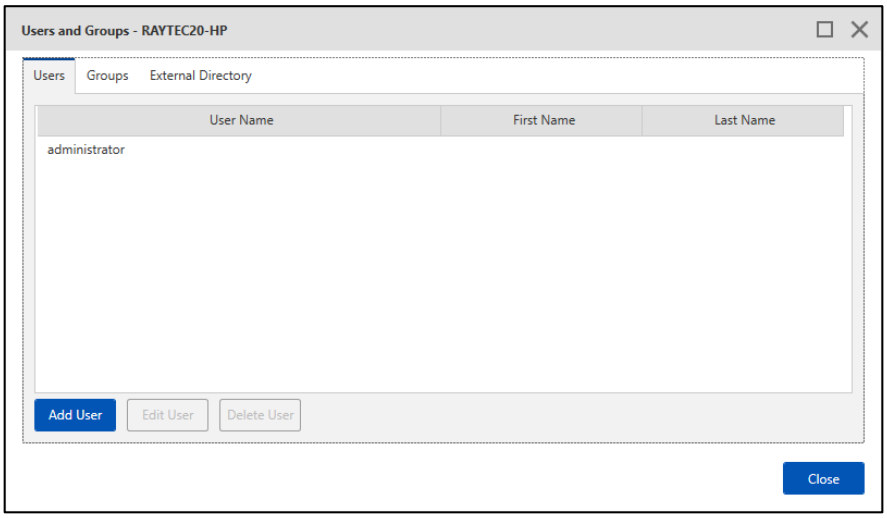
## 2.1 Configure a User in Avigilon Unity

It is good practice to create a specific user account in *Avigilon Unity* that will be used by the Raytec Avigilon Integration. This user account will be used by all components of the *Raytec Avigilon Integration* to communicate with *Avigilon Unity*. This user should be set as a recipient of any alarms created in *Avigilon Unity* that will be used to control Raytec lamps.

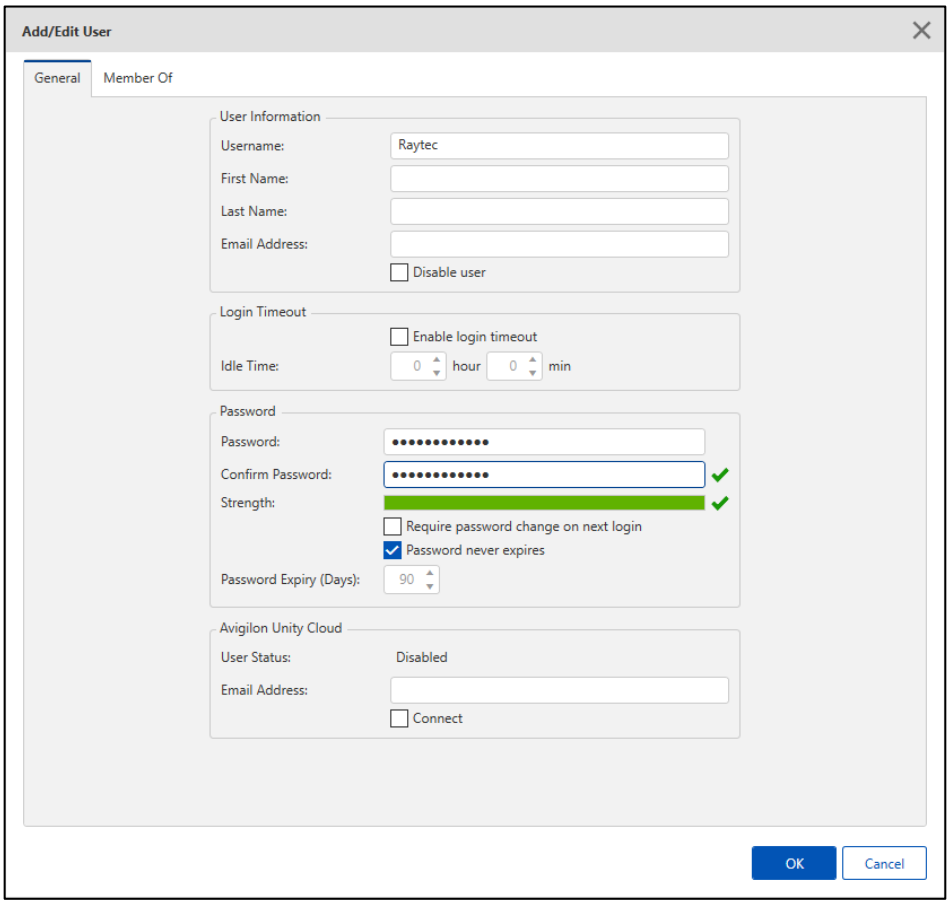
In Avigilon Unity select *Users and Groups* from the main server node.



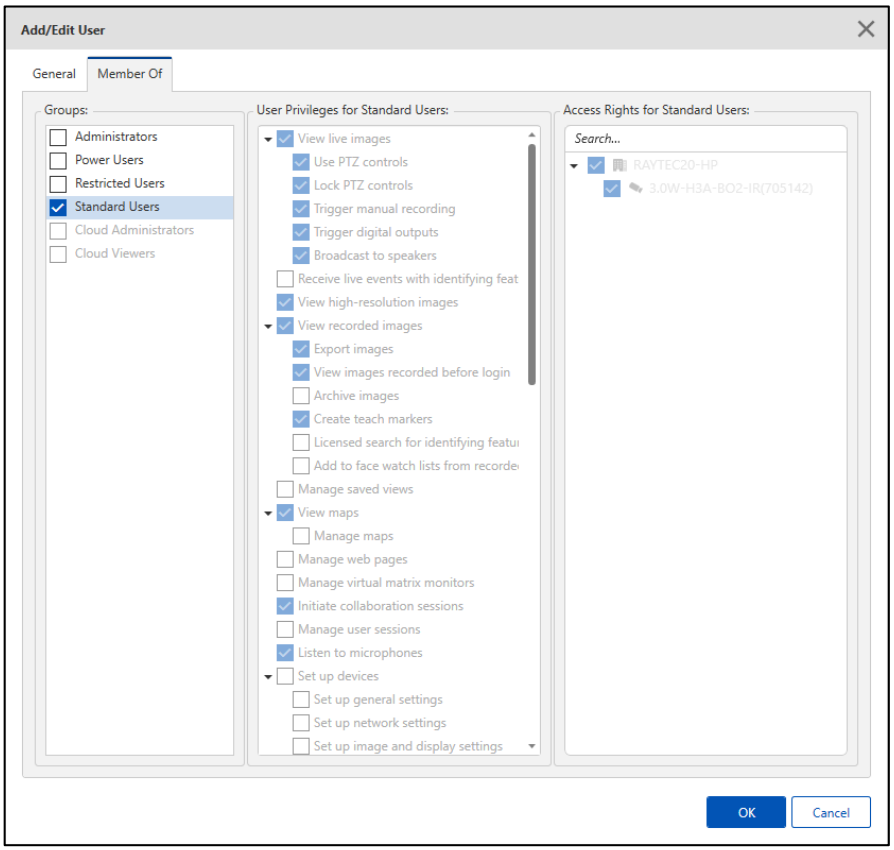

This will open a dialog where you can add a new user.



Click *Add User* and a dialog where you can enter the name for your user will be displayed. Set the *Username* to be *Raytec* and set the password. Also, ensure the *Password never expires* check box is ticked.



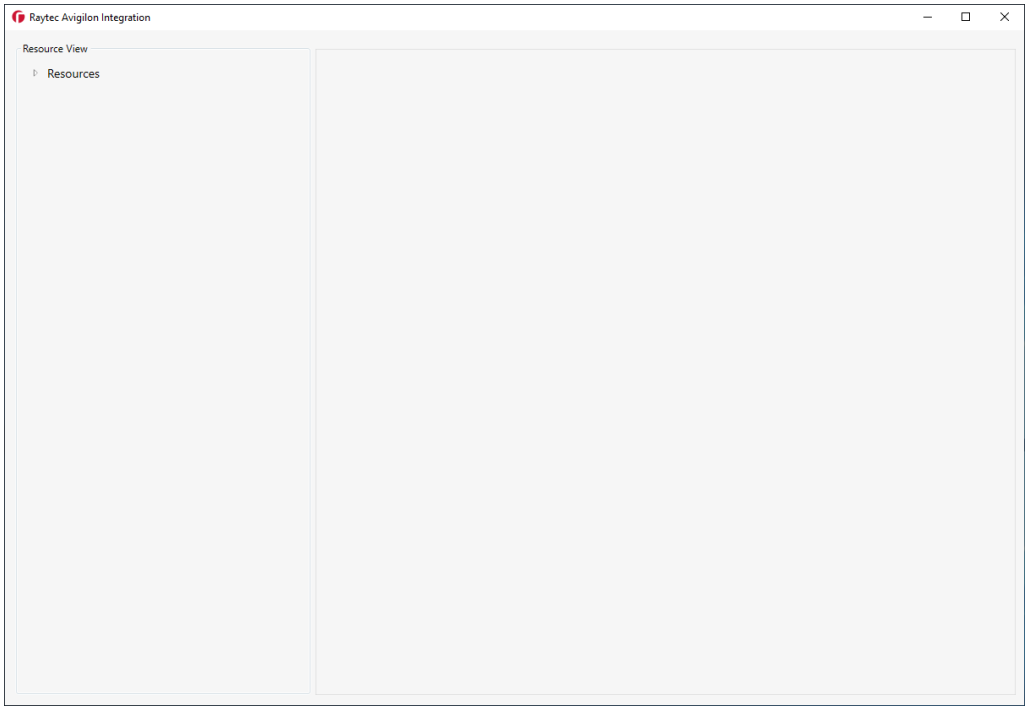
Select the *Member Of* tab. Make this user a member of the *Standard Users* group by ticking the checkbox. Press OK to close this dialog and then press *Close* to close the remaining open dialog.




We now have a user and password that we will need to configure in the *Raytec Avigilon Integration*.

## 2.2 Configure a User in Raytec Avigilon Integration

Open the *Raytec Avigilon Integration*, the main application window will be shown as below.




On the left-hand side of the application is the resource tree view. Below the main root node there are five child nodes.

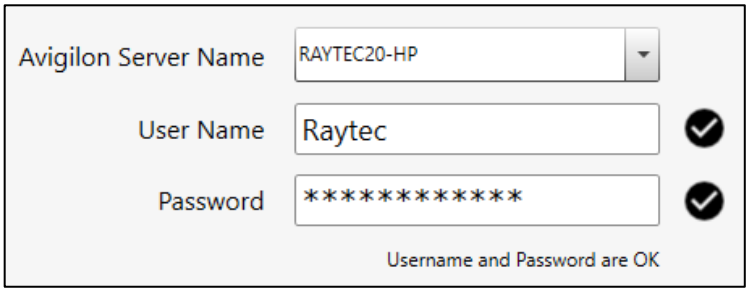
- The Avigilon Server node
- The Raytec Lamps node
- The Raytec Hybrid Lamps node
- The Raytec Service node
- The Server Address node

In the example below the application has successfully logged into the Avigilon server called *RAYTEC20-HP*. If the application is unable to log into the Avigilon server, then the node name will be empty and there will be no child nodes available beneath the Avigilon Server node.

When the Avigilon Server node is selected the right-hand side of the application window will display the following Avigilon server details:

- Avigilon Server Name (automatically populated combo box)
- Username (the user created in *Avigilon Unity*)
- Password (the password for the user created in *Avigilon Unity*)

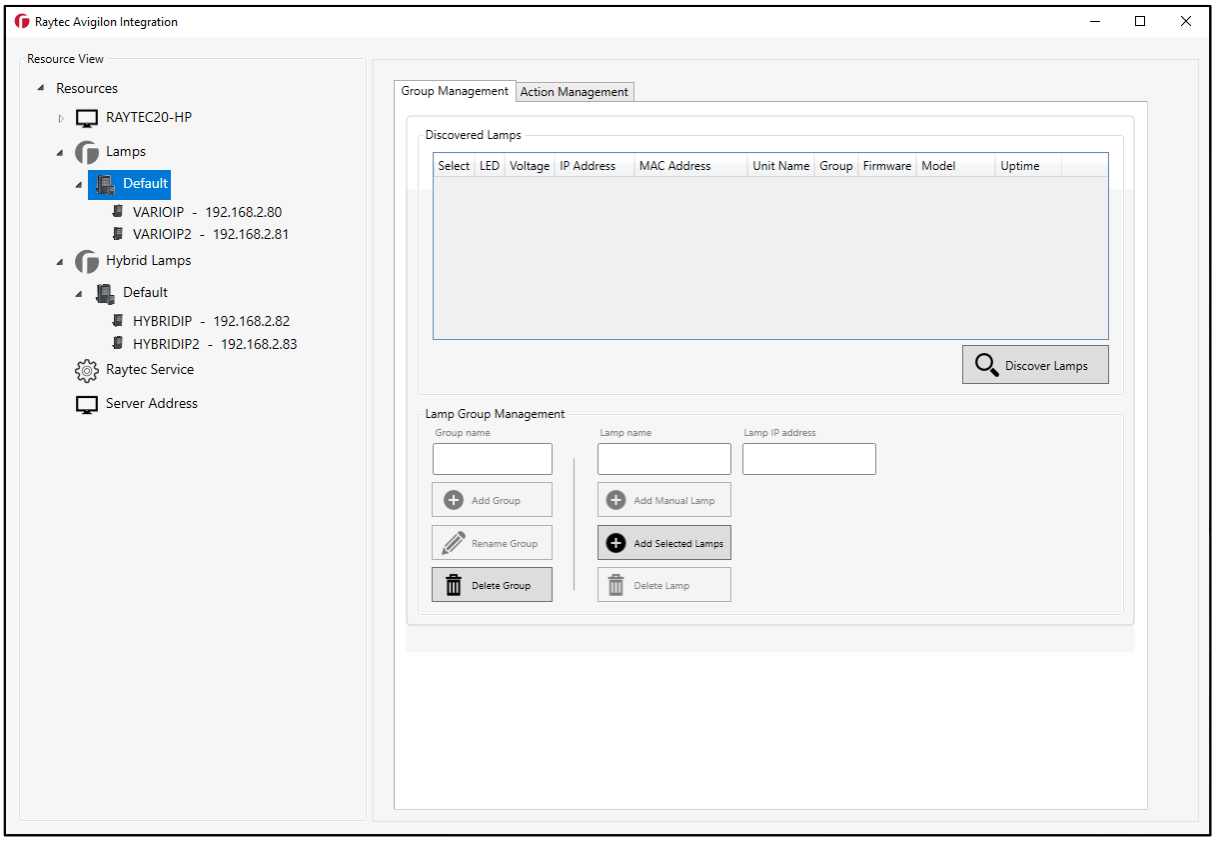
The username and password that was created in section 2.1 must be entered in the username and password text boxes. These credentials can be verified by pressing the *Test* button. A successful test will be indicated by two tick marks next to the username and password.




The credentials can be saved by pressing the *Save* button. Once the credentials are saved the application will attempt to log into the Avigilon server and, when successful, display the server name on the Avigilon Server node. It may take several seconds for the login process to complete.

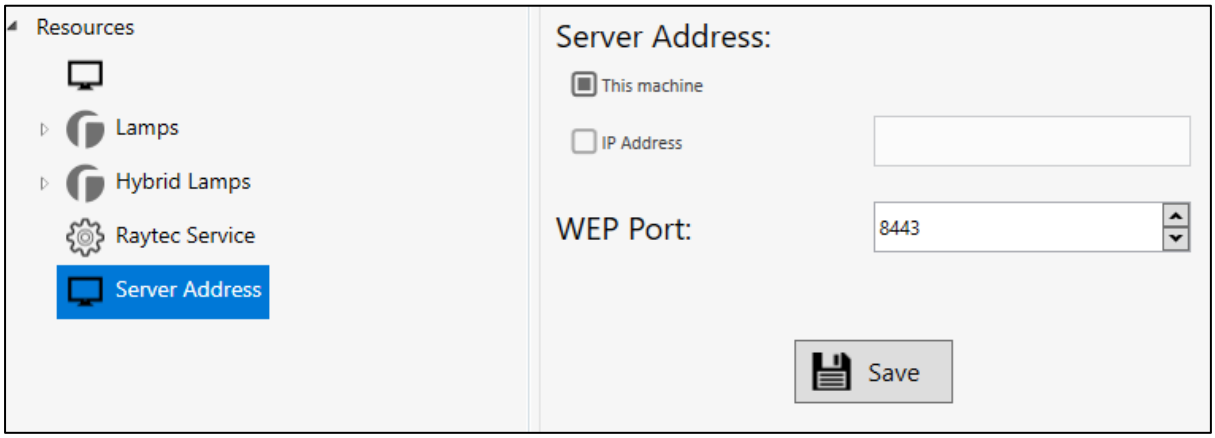
When the credentials are saved the *Raytec Avigilon Service* will also log into the Avigilon server. The service will take approximately twenty seconds from the time the credentials are saved before attempting to log into the Avigilon Server.

If at any time the server settings need to be reloaded, press the *Reload* button.



### 2.3 Setting Avigilon server IP address

If you are installing the Raytec Avigilon Plugin for the first time and you are installing this on a machine that is not the Avigilon server then you will need to specify the IP address of the Avigilon Server. To do this, click on “Server Address” in the tree:




By default, the program assumes the plugin is installed on the Avigilon server machine and that the Web EndPoint port is 8443.

To set the IP address of the Avigilon server check the “IP Address” radio button, enter the IP address and click “Save”. Now when you return to the first item in the tree, the site should be listed in the “Avigilon Server” combo box.

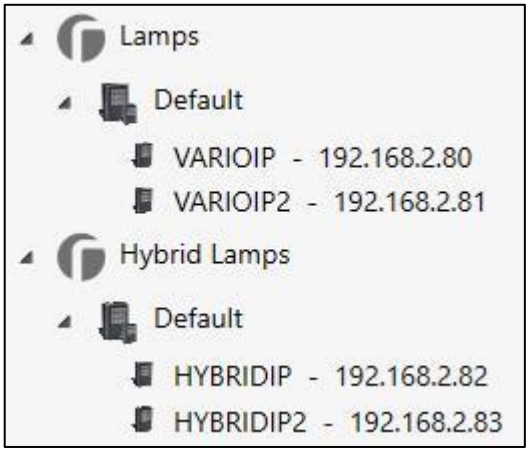
If you are upgrading from a previous version of the Raytec Avigilon Plugin, this process is done automatically after installing the latest version of the plugin but you will need to update the WEP Port if you have changed this on the Avigilon server machine.

# 3 Raytec Avigilon Integration - Adding Groups and Lamps

## 3.1 Group Management

The Raytec Lamp node (labelled *Lamps*) and the Raytec Hybrid Lamp Node (labelled *Hybrid Lamps)* are the next main nodes directly below the Avigilon Server node (labelled *RAYTEC20-HP*). Child nodes below these nodes are Lamp Group nodes. Child nodes of each Lamp Group node are individual lamps.

In the screen shot below, we have a single group node called *Default* under *Lamps* and *Hybrid Lamps*. There are two lamps in each group, *VARIOIP* and *VARIOIP2* in the *Lamps Default* group and *HYBRIDIP* and *HYBRIDIP2* in *Hybrid Lamps Default* group.




You can create groups with the same name under *Lamps* and *Hybrid Lamps* (as shown below). *Lamps* is for single wavelength lamps and *Hybrid Lamps* is for hybrid lamps, we have separate sections to configure these as hybrid lamps need to be told which wavelength to switch on (IR or WL) and they also don't support boost functionality.

When a group is selected in the tree view, the right-hand side of the application window will show a tabbed control. There are two tabs on this control, *Group Management* and *Action Management*.

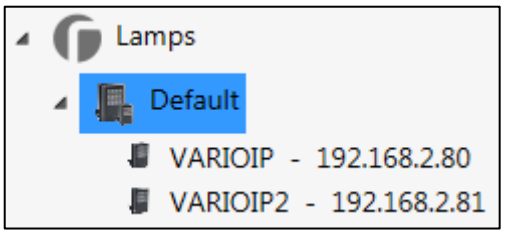
The *Group Management* tab is where groups can be added, removed and renamed. Lamps can also be added and removed from groups.

To perform any group operations, a group node must be selected. To perform any lamp operations a lamp node must be selected.

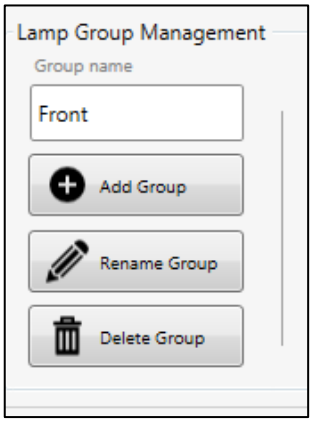
Group addition, renaming and deleting is the same for *Lamps* and *Hybrid Lamps*, the following examples show screen shots from doing this for *Lamps*.

### *Renaming a Group*

To rename a group first select the group you wish to rename.

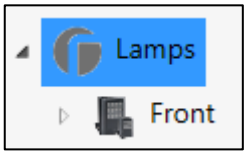



Next, type the new name of the group in the *Group name* text box and press the *Rename Group* button.



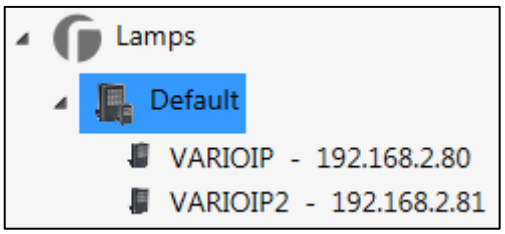

When the group is renamed, it is deselected and the node is refreshed.

Any attempt to rename a group to a name which already exists will be silently ignored.

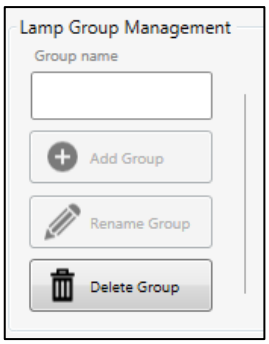



### *Deleting a Group*

To delete a group first select the group you wish to delete.

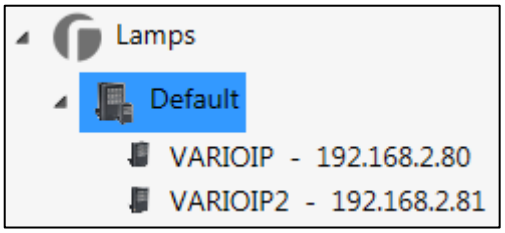



Next press the *Delete Group* button.

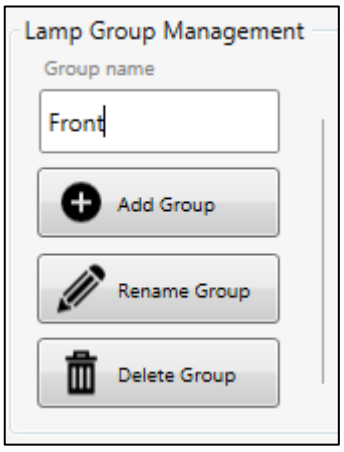



### *Adding a Group*

To add a group first select any group node.

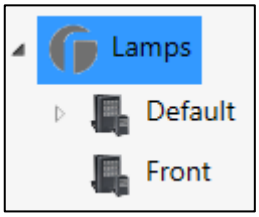



Next, type in the name of the new group in the *Group name* text box and press the *Add Group* button.




When the group is added the Raytec Lamp node is refreshed displaying the groups.

Any attempt to add a group with a name that already exists will be silently ignored.



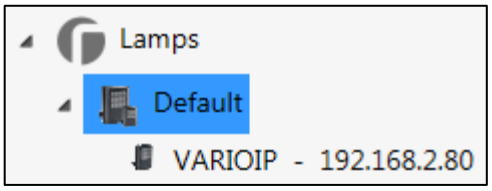
## 3.2 Lamp Management

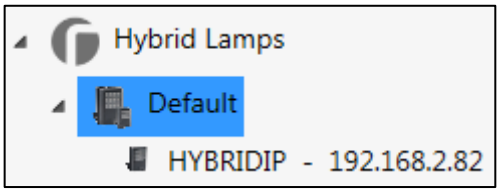
Lamps may be added to groups or removed from groups. Some lamp management activities can be performed with a group selected, such as adding lamps to a group, or with a lamp selected, such as removing a lamp from a group.

Lamps may be added to groups using the discovery control or they may be added manually by entering a lamp name and valid IP address in the appropriate text boxes.

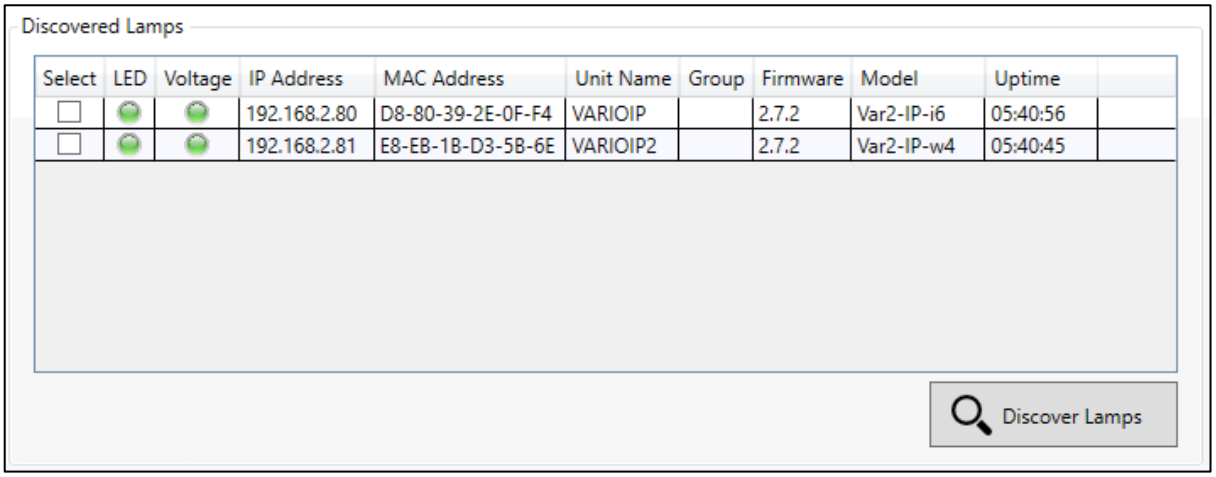
***Adding a Lamp to a Group using Discovery***

To add a lamp to a group using discovery first select the lamp group node you wish to add the lamp to (use a lamp group node under *Lamps* for single wavelength lamps and *Hybrid Lamps* for hybrid lamps)

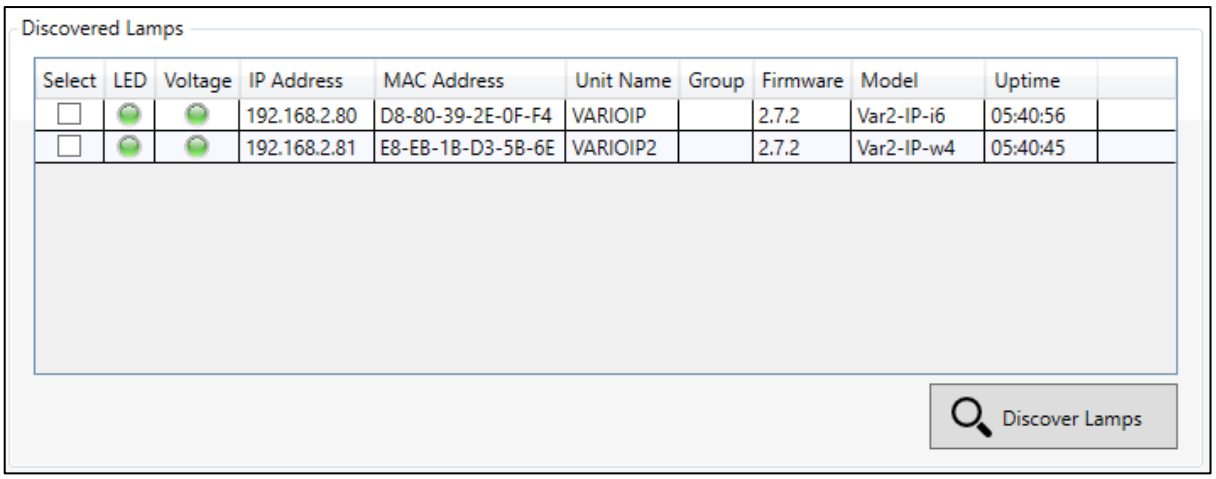



Next, press the *Discover Lamps* button to show all the available lamps on the network. The discovery list view will provide some details about each lamp including firmware version, IP address, LED status and voltage status.




*Single wavelength lamps will be shown when clicking 'Discover Lamps' when you have a group under the 'Lamps' node selected.*

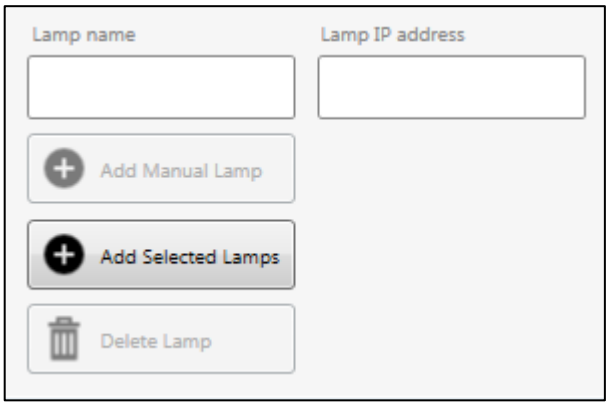



*Hybrid lamps will be shown when clicking 'Discover Lamps' when you have a group under the 'Hybrid Lamps' node selected.*

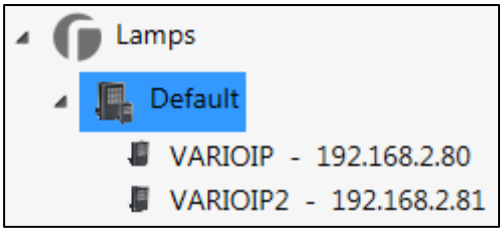
Select any lamps you wish to add by checking the *Select* tick box.

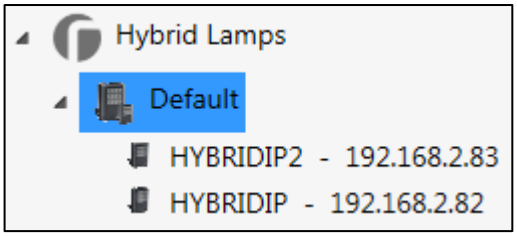
Next press the *Add Selected Lamps* button.

Any attempt to add a lamp into a group which already contains that lamp will be silently ignored.




When the lamp is added the Lamp node is refreshed displaying the groups. Expand the group node and the newly added lamp will be shown.

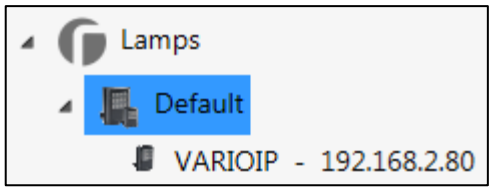


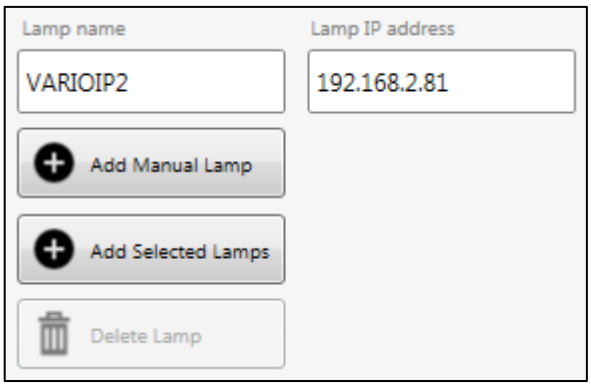
### *Adding a Lamp to a Group Manually*

This process is the same for single wavelength and hybrid lamps, single wavelength lamps are used in this example.

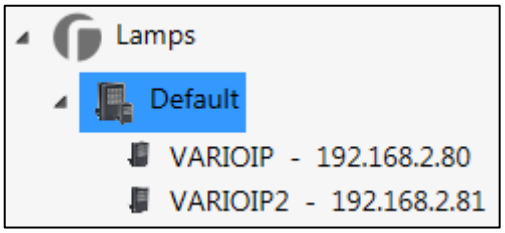
To add a lamp to a group manually first select the lamp group node you wish to add the lamp to.




Next, enter the lamp name and IP address into the *Lamp name* and *Lamp IP address* text boxes respectively and press the *Add Manual Lamp* button.



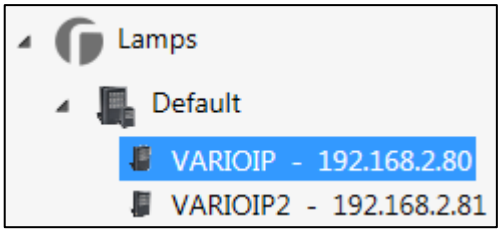

When the lamp is added the Lamp node is refreshed displaying the groups. Expand the group node and the newly added lamp will be shown.



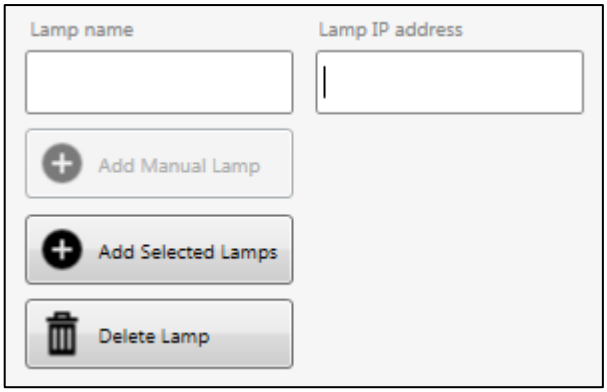

### *Removing a Lamp from a Group*

This process is the same for single wavelength and hybrid lamps, single wavelength lamps are used in this example.

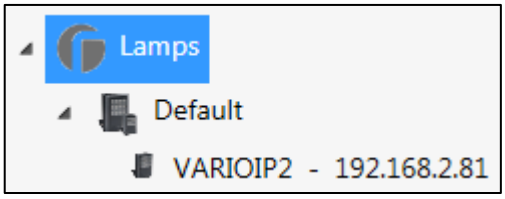
To remove a lamp from a group first select the lamp node you wish to remove.




Next, press the *Delete Lamp* button.



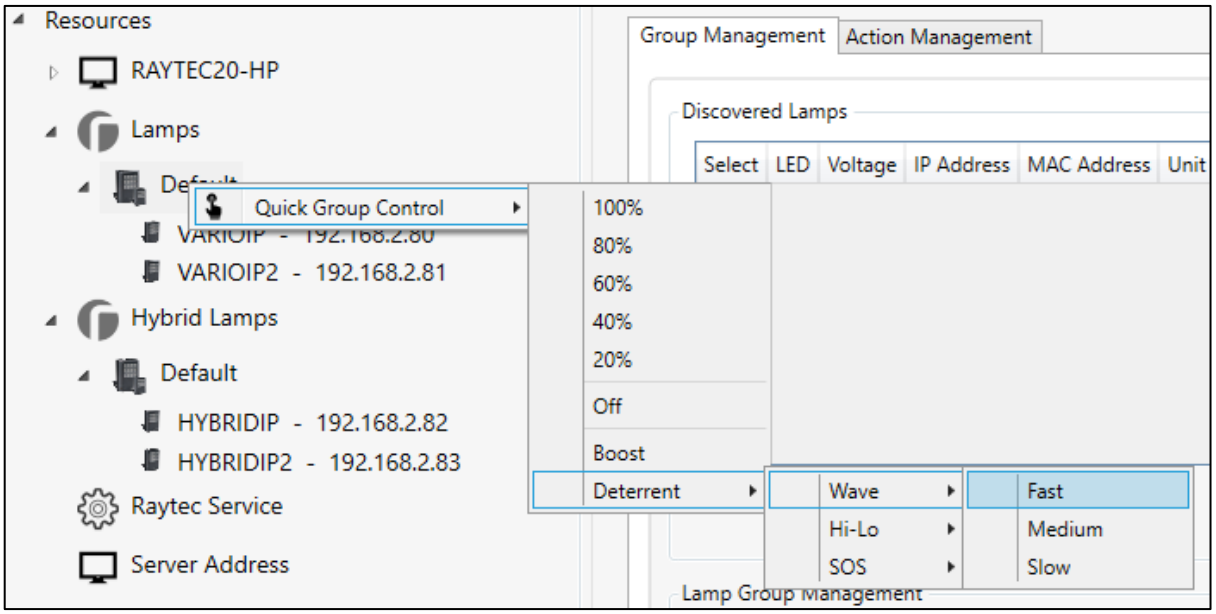

When the lamp is removed the Lamp node is refreshed displaying the groups. Expand the group node and remaining lamps in the group will be shown.



## 3.3 Group Quick Control

### *Single wavelength lamps*

Any group of lamps can be controlled directly by selecting a group node and right clicking to open a context menu.




The available quick group control commands are:

- **100%** - power on all lamps in group at 100% level
- **80%** - power on all lamps in group at 80% level
- **60%** - power on all lamps in group at 60% level
- **40%** - power on all lamps in group at 40% level
- **20%** - power on all lamps in group at 20% level
- **Off** – turn off all lamps in group
- **Boost** – power on all lamps in group at boost level
- **Deterrent** – power on all lamps in deterrent mode

For *Deterrent* mode, the available modes are:

- **Wave**
- **Hi-Lo**
- **SOS**

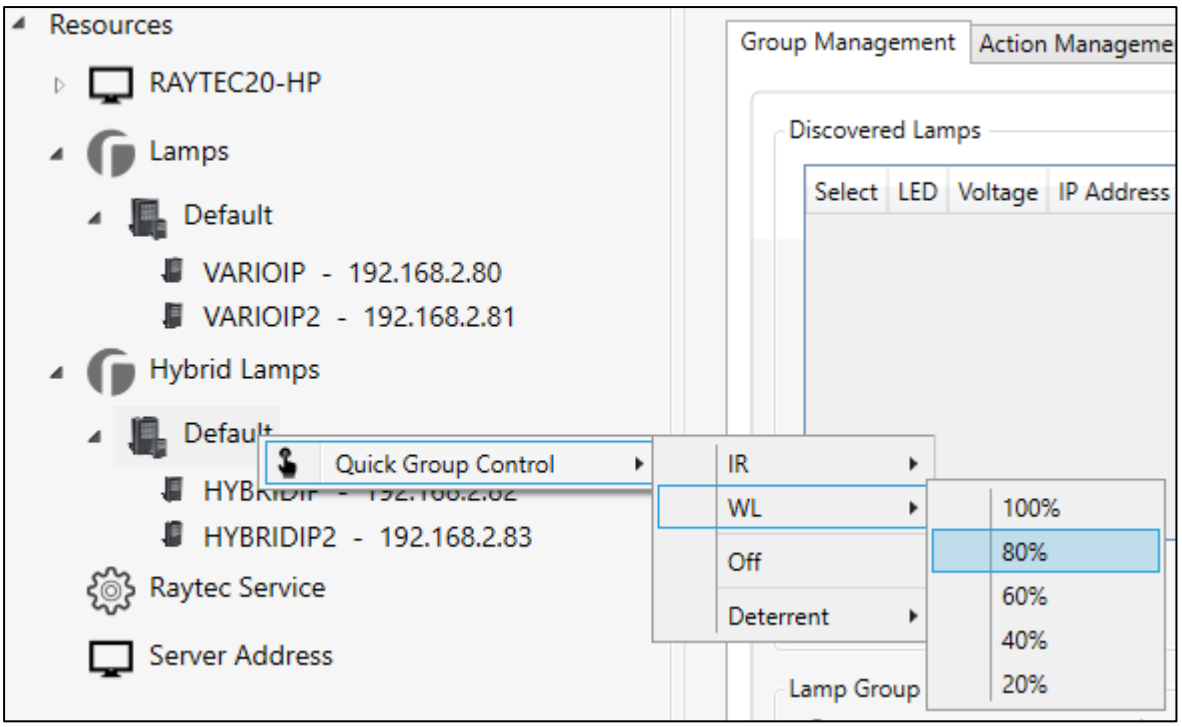
And for each mode, the available speeds are:

- **Fast**
- **Medium**
- **Slow**

### *Hybrid lamps*

Any group of hybrid lamps can be controlled directly by selecting a group node and right clicking to open a context menu.

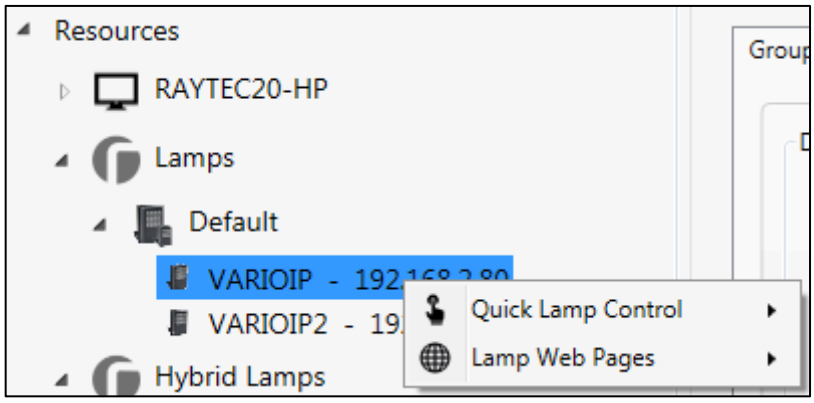
The context menu has some similarities to that used for single wavelength lamp groups except powers are under IR and WL menus and boost is not available.


Resources
RAYTEC20-HP
Lamps
Default
VARIOIP - 192.168.2.80
VARIOIP2 - 192.168.2.81
Hybrid Lamps
Default
HYBRIDIP2 - 192.168.2.83
Raytec Service
Server Address
Group Management
Action Manageme
Discovered Lamps
Select
LED
Voltage
IP Address
Quick Group Control
IR
WL
Off
Deterrent
100%
80%
60%
40%
20%
Lamp Group

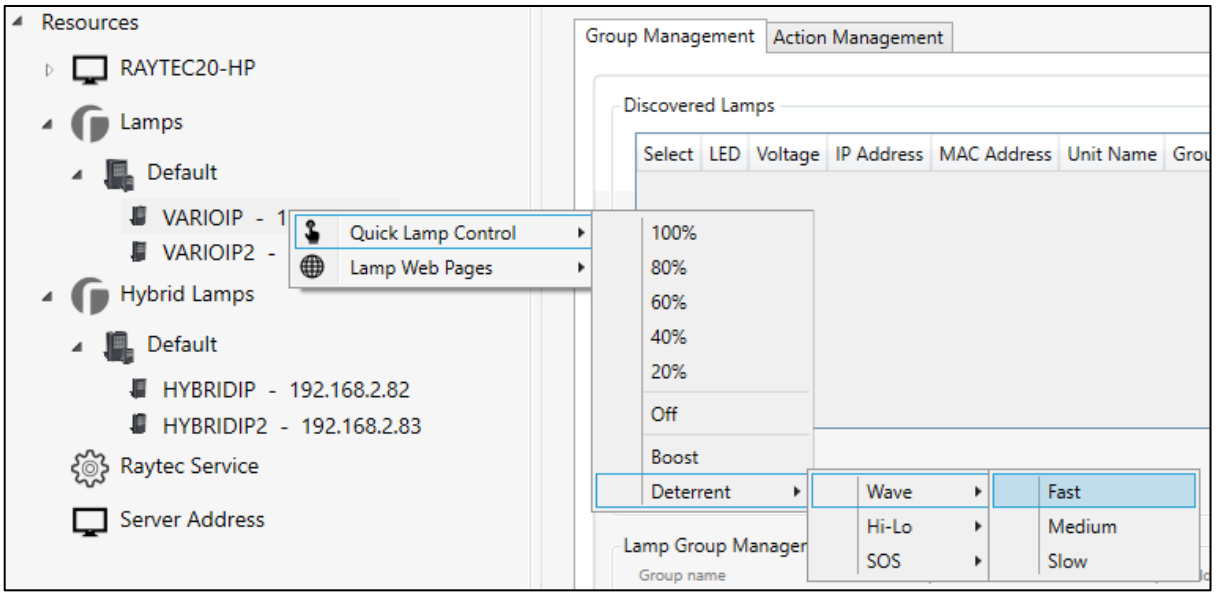
### 3.4 Lamp Quick Control

Any individual lamp can be controlled directly by selecting a lamp node and right clicking to open a context menu.

For lamps, the context menu also includes a menu to open the lamp's web interface.




The quick lamp control commands are identical to the quick group control commands.




The available quick lamp control commands are:

- **100%** - power on lamp at 100% level
- **80%** - power on lamp at 80% level
- **60%** - power on lamp at 60% level
- **40%** - power on lamp at 40% level
- **20%** - power on lamp at 20% level
- **Off** – turn off lamp
- **Boost** – power on lamp at boost level
- **Deterrent** – power on lamp in deterrent mode

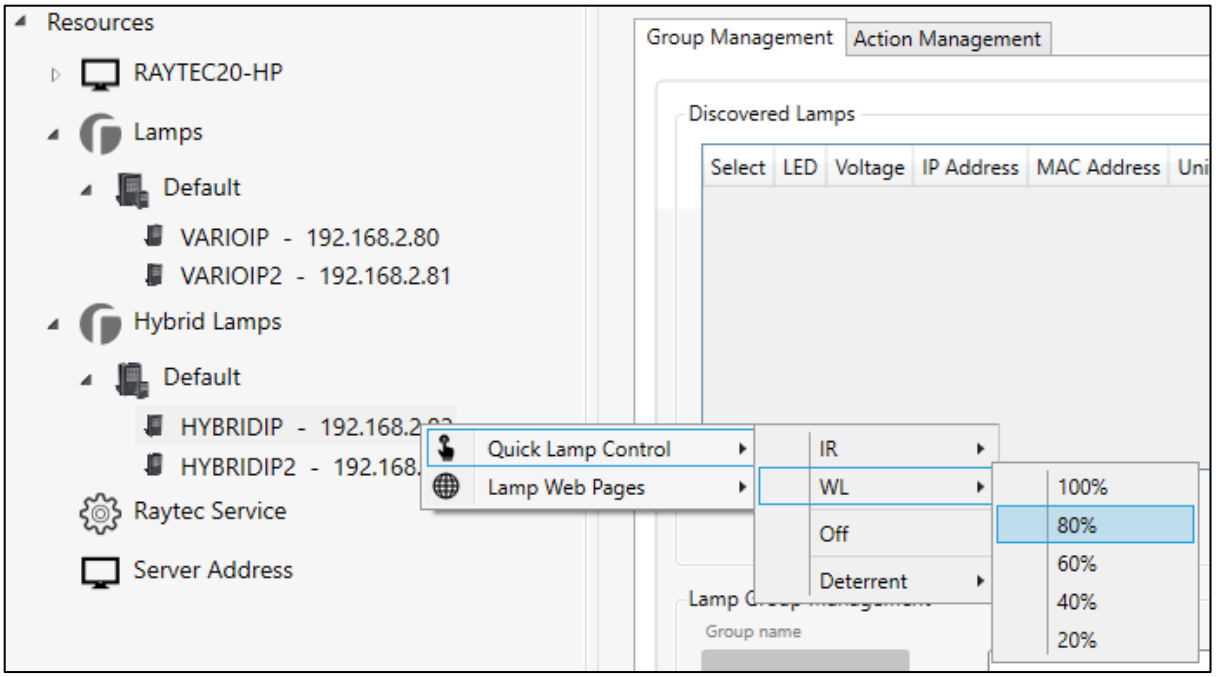
For *Deterrent* mode, the available modes are:

- **Wave**
- **Hi-Lo**
- **SOS**

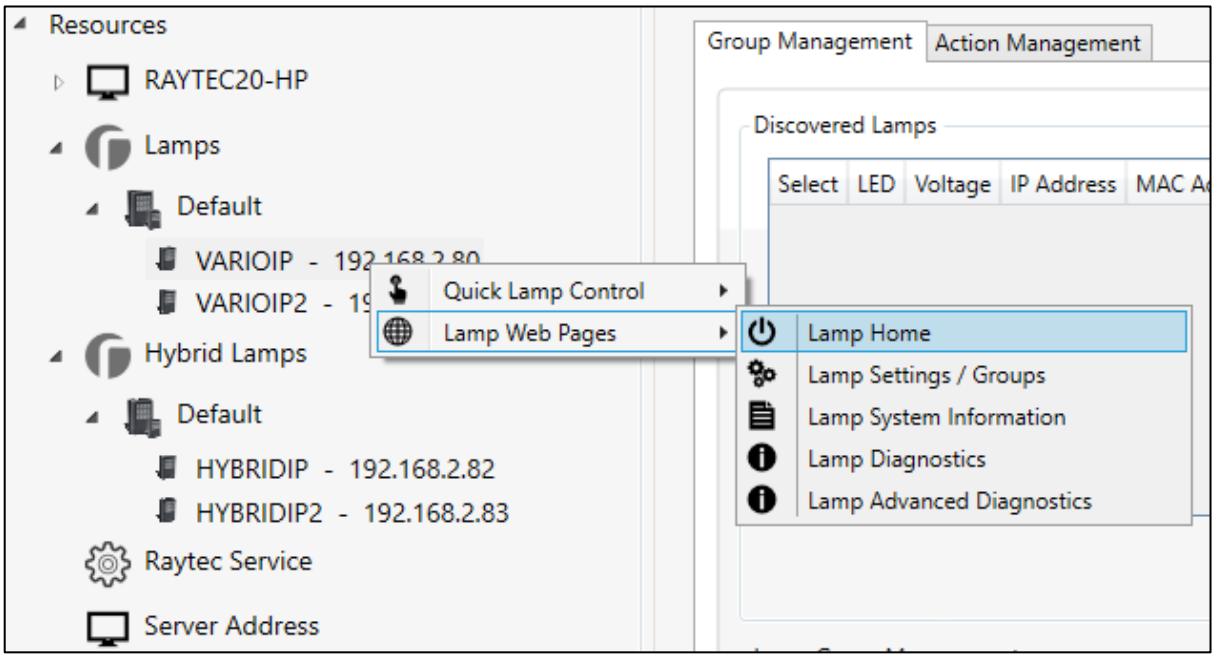
And for each mode, the available speeds are:

- **Fast**
- **Medium**
- **Slow**

Again, hybrid lamps have powers under IR and WL and boost is not available for this type of lamp.



The *Lamp Web Pages* menu items allow quick access to some of the lamp web pages. Selecting any of the *Lamp Web Pages* menu items will open your default browser to the selected lamp web page.




The available lamp web page commands are:

- **Lamp Home** – opens the lamp's home page
- **Lamp Settings / Groups** – opens the lamp's settings page
- **Lamp System Information** – opens the lamp's system information page
- **Lamp Diagnostics** – opens the lamp's diagnostics page
- **Lamp Advanced Diagnostics** – opens the lamp's advanced diagnostics page

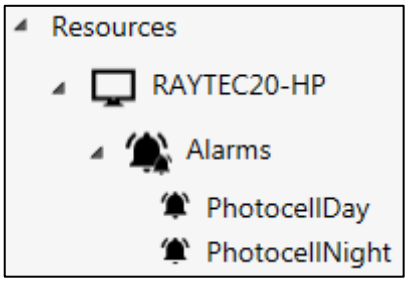
# 4 Alarms Overview

## 4.1 Avigilon Unity Alarms

The *Avigilon Server* node on the *Raytec Avigilon Integration* application will contain one child node labelled *Alarms*. Please note this node appears once the application has successfully logged into the Avigilon server (as outlined in section 2.2).

Alarms created in *Avigilon Unity* will appear / disappear automatically in the *Alarms* node as they are added / removed in *Avigilon Unity*.

In the example below there are two alarms configured in *Avigilon Unity*, called PhotocellDay and PhotocellNight.

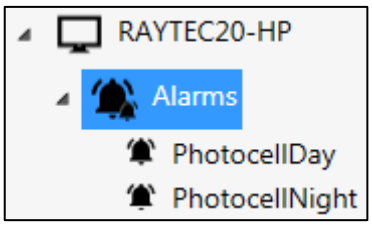



Alarms in *Avigilon Unity* can be triggered from many different sources, including a specific type of trigger source called an *external software event*. This type of alarm can be triggered by external software applications and will be used by the *Raytec Avigilon Integration* to route lamp events, such as photocell or external input events, into *Avigilon Unity*. The alarm can then be handled by the *Raytec Avigilon Integration* to initiate lamp / group actions. In this way a single lamp event (photocell or external input) can be registered by *Avigilon Unity* and initiate actions on the lamps.

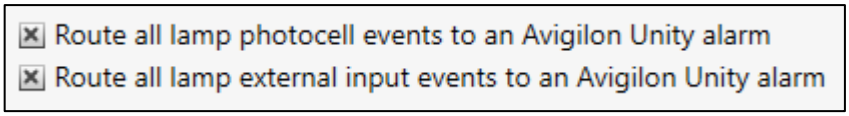
## 4.2 Raytec Lamp Events

In addition to the ability to respond to *Avigilon Unity* alarms, the *Raytec Avigilon Integration* also provides the ability to initiate lamp actions based on lamp events directly, and thus bypass the need to route lamp events into *Avigilon Unity* and act on the alarms generated within *Avigilon Unity*.

To configure whether or not to route lamp events to an *Avigilon Unity* alarm, firstly select the *Alarms* node in the *Raytec Avigilon Integration*.



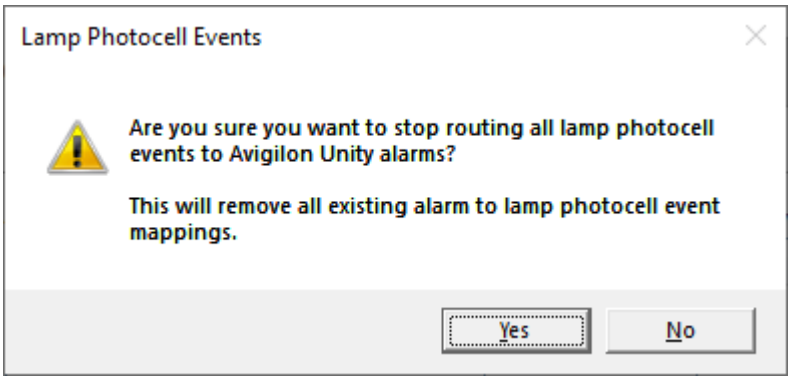

The right-hand side of the application window shows a number of controls that allow lamp events to be mapped to an *Avigilon Unity* alarm. This process will be described in more detail later in section 6. However, to configure whether or not lamp events are routed, two check boxes are provided which control this behaviour:

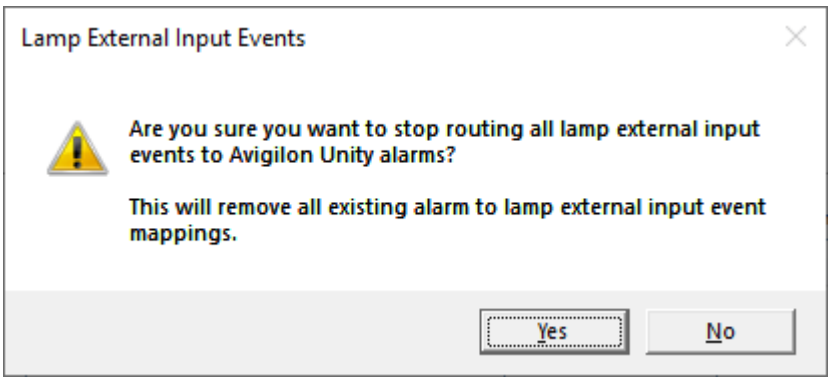



If the *Route all lamp photocell events* checkbox is checked then all lamp photocell events will be routed to an *Avigilon Unity* alarm. This alarm will be configured at a later stage.

If the *Route all lamp external input events* checkbox is checked then all lamp external input events will be routed to an *Avigilon Unity* alarm. This alarm will be configured at a later stage.

It should be noted if any existing lamp to alarm mappings exist, unchecking any of the above check boxes will remove those mappings from the saved configuration. The user will be warned about this with the following dialogs:



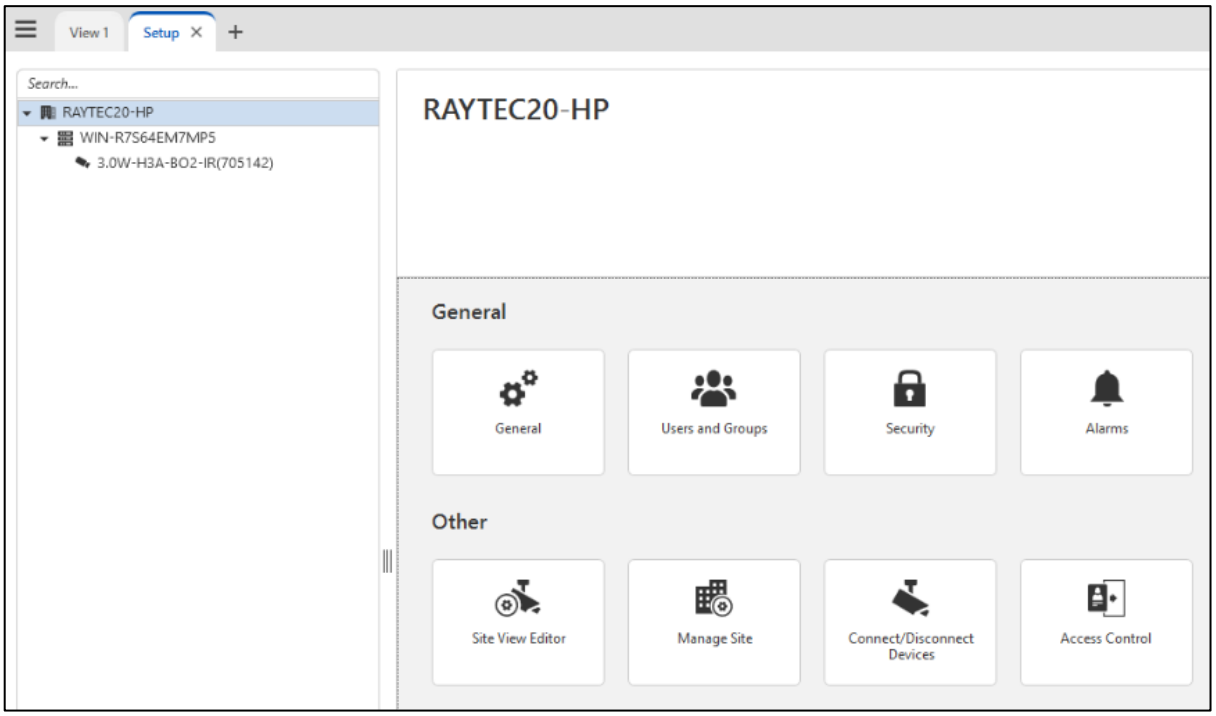



# 5 Avigilon Unity Alarms

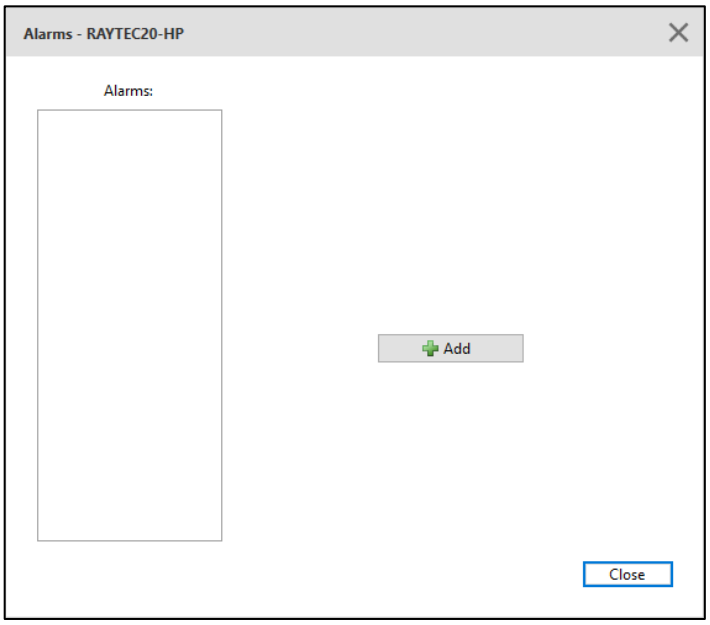
## 5.1 Create an Alarm in Avigilon Unity

In this section we will create a number of alarms in *Avigilon Unity.* Some of these alarms will be triggered by an *external software event*. This type of alarm will be used by the *Raytec Avigilon Integration* to map one or more lamp events to one of these *external software event* alarms.

To create an alarm, first select the main server node in *Avigilon Unity*.




Next, press the alarms button. The main dialog for adding alarms will appear.

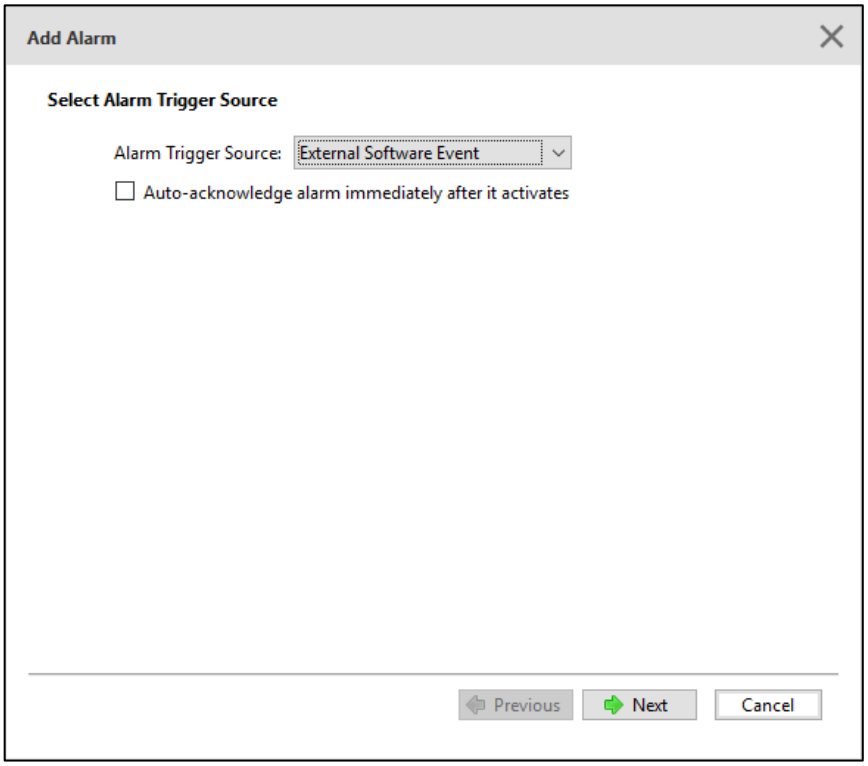


## 5.2 Create a PhotocellDay Alarm in Avigilon Unity

We will create an alarm called *PhotocellDay*. Press the *Add* button to begin the process of creating the alarm.

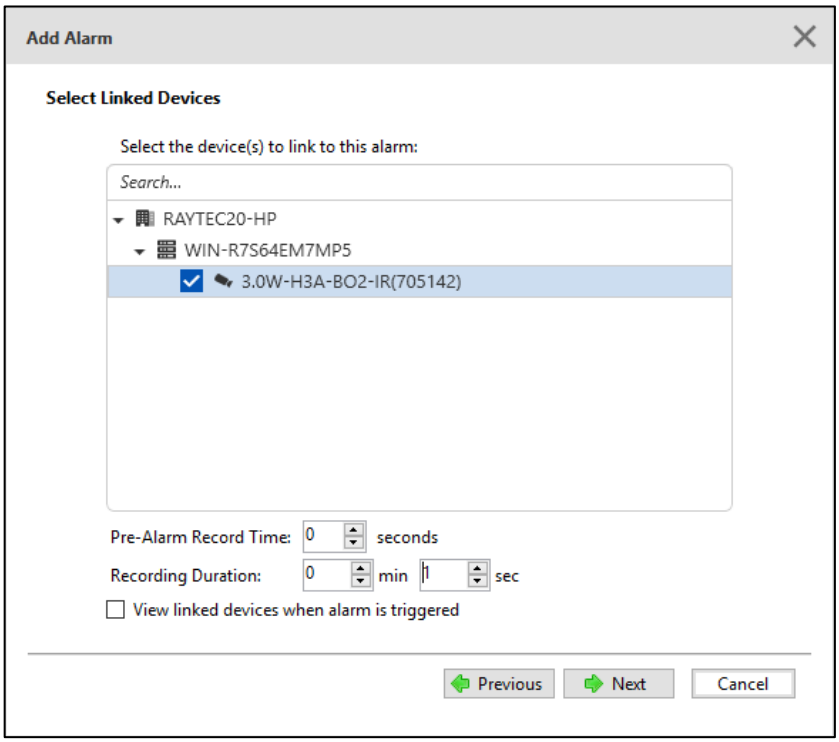
Set the trigger source for this alarm to be *External Software Event*.

Ensure the *Auto-acknowledge alarm immediately after it activates* is not checked. The *Raytec Avigilon Integration* will provide acknowledgement of this alarm back to *Avigilon Unity*.



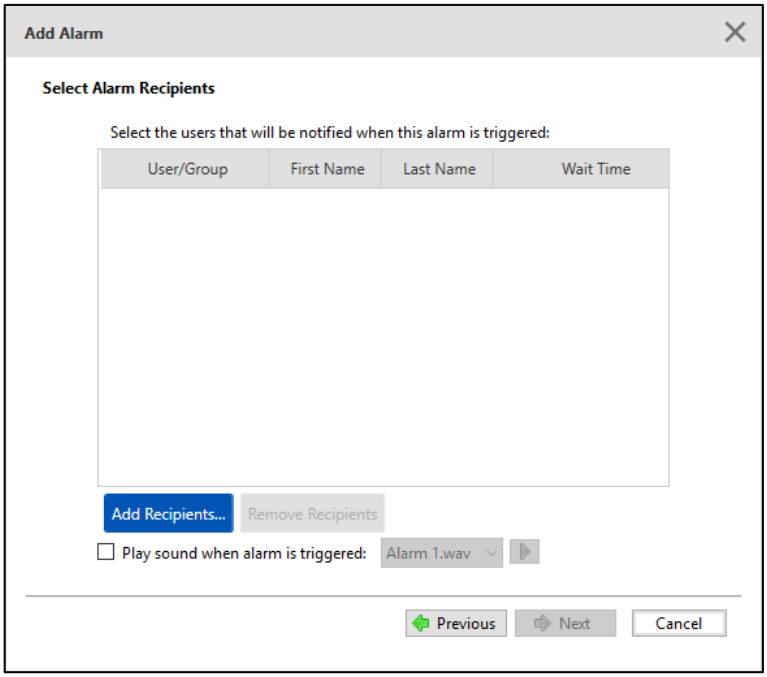

Press the *Next* button to continue.

Here you must link a camera to the alarm. *Avigilon Unity* requires all alarms to be linked to the camera. In this example we set the camera to record for just 1 second when the alarm is triggered. Adjust this recording time as required for your application.




Press the *Next* button to continue.

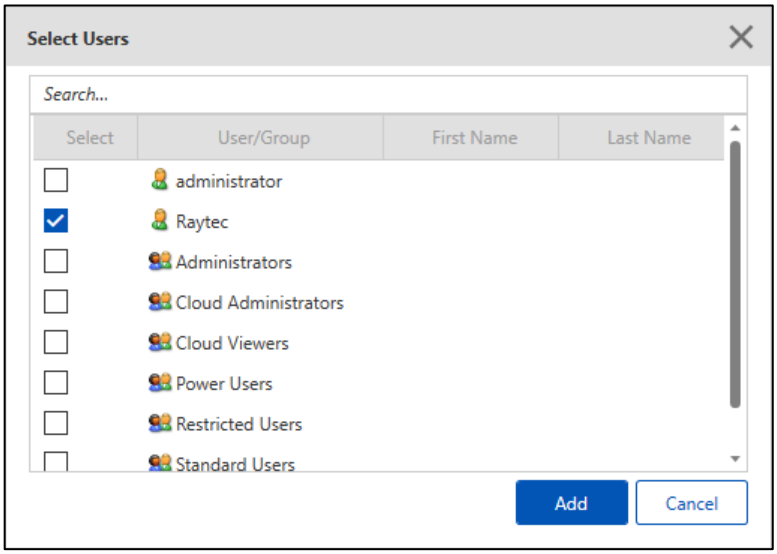
We will now configure recipients for the alarm. For the alarm to be handled by the *Raytec Avigilon Integration*, the user created in section 2.2 (and subsequently used by the *Raytec Avigilon Integration* to connect to *Avigilon Unity*) must be added as a recipient of the alarm.



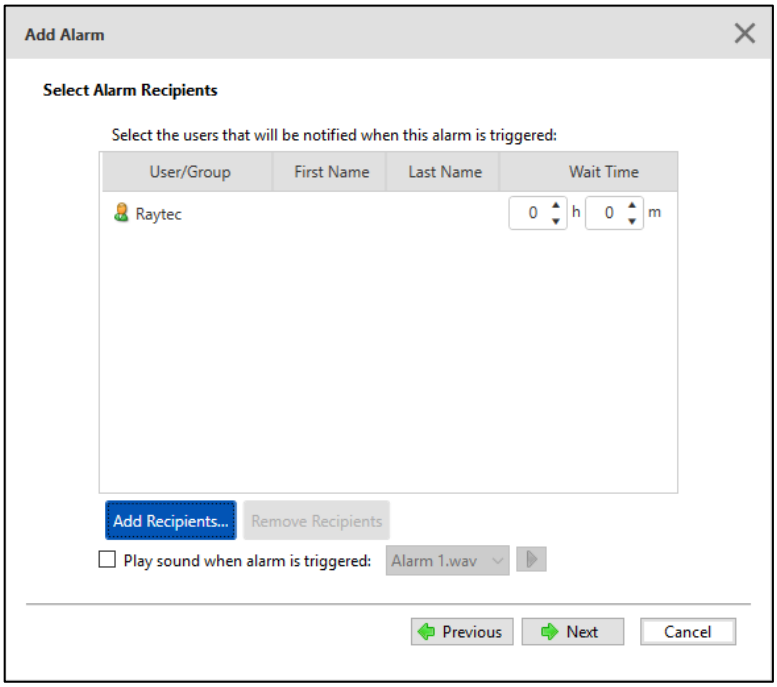
Press the *Add Recipients* button to add a recipient.

Select the *Raytec* user. This is the user we configured in section 2.2.

You may add other users as required.

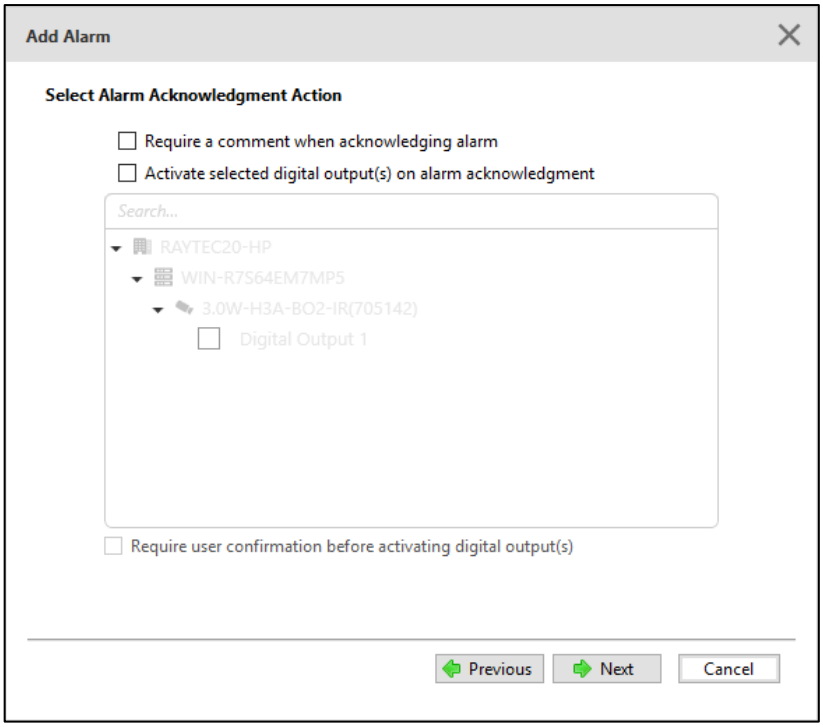



Press the *Add* button to continue.



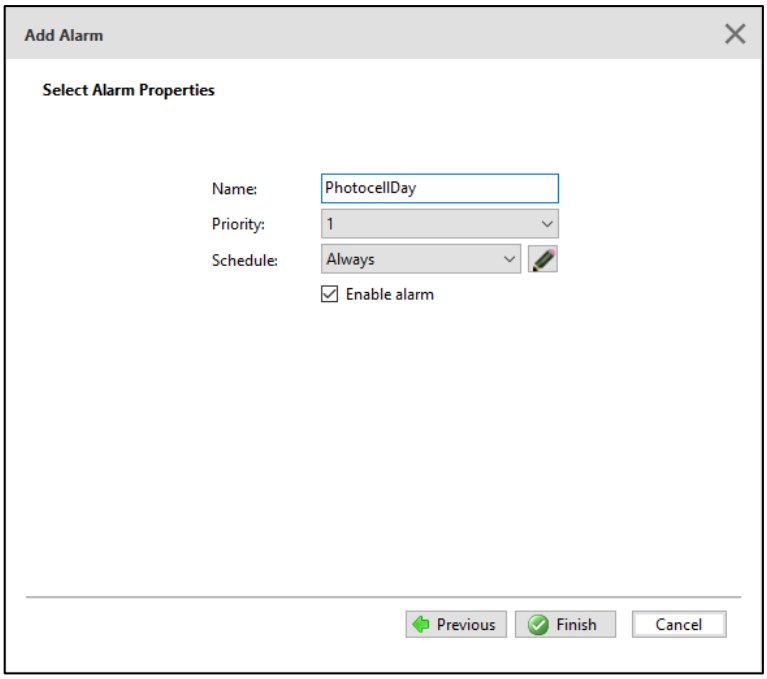

The default *Wait Time* of 0h, 0m is sufficient for this alarm.

Once all alarm recipients have been added press the *Next* button to continue.




Ensure the '*Require a comment when acknowledging alarm'* check box is unchecked.

Press the *Next* button to continue.

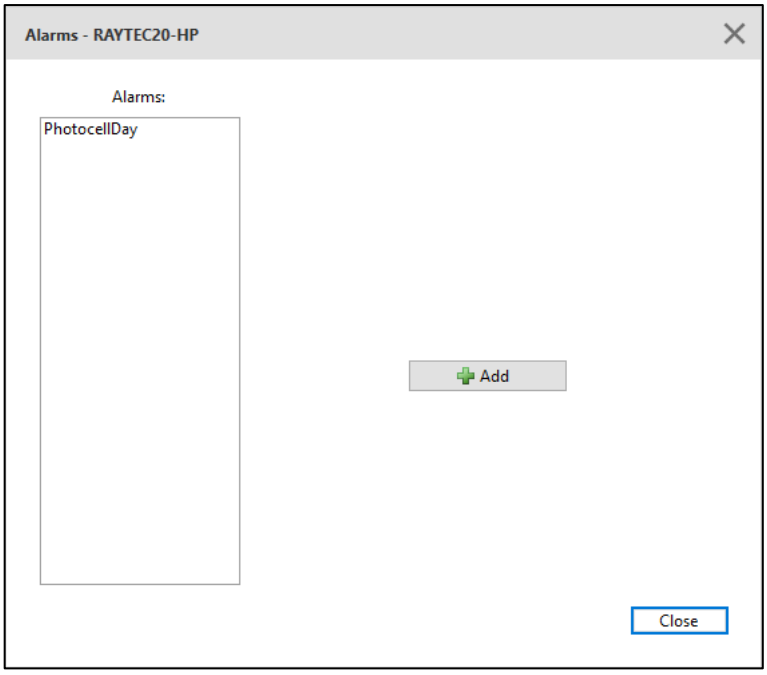



Set the name of the alarm to *PhotocellDay*.

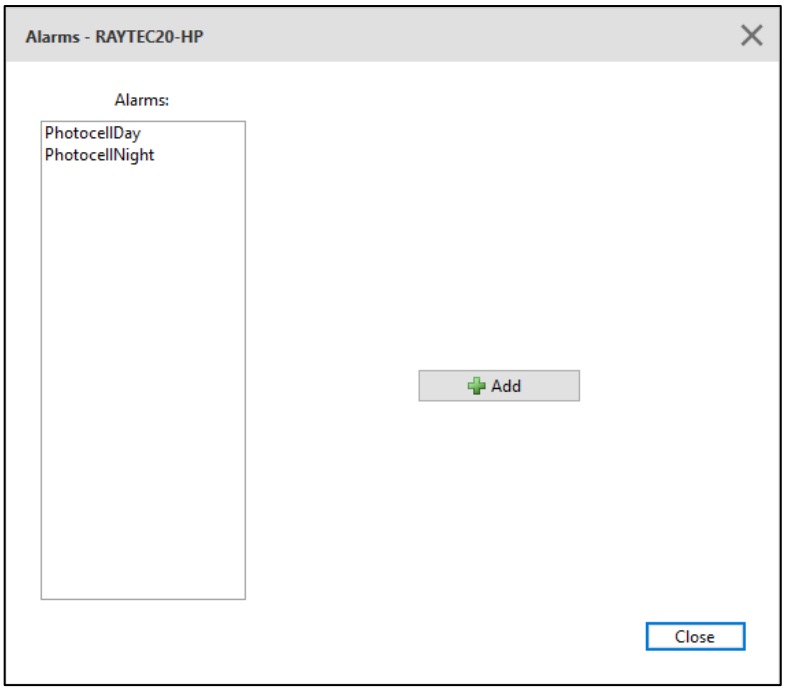
The priority should be set to *1* and the schedule should be *always.*

Ensure the *Enable alarm* check box is checked.

Click the *Finish* button to complete the process of adding the alarm. The new alarm will be displayed in the alarms list.



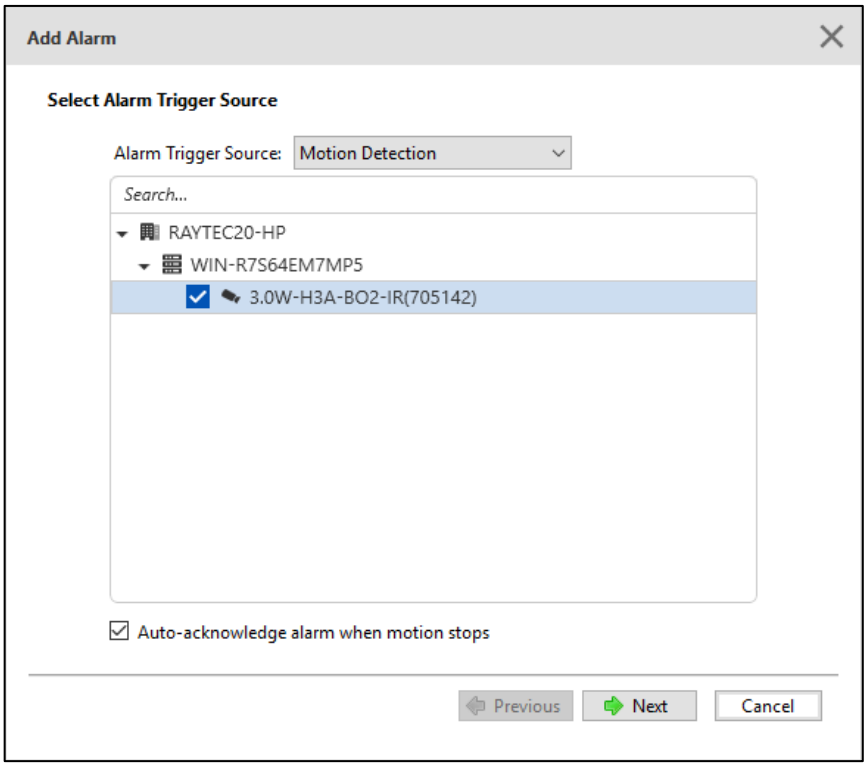

Follow the steps above to create another alarm, but this time name the alarm *PhotocellNight*.



## 5.3 Create a MotionDetect Alarm in Avigilon Unity

Next we will create an alarm called *MotionDetect*. This alarm will have camera motion detection as the trigger source for the alarm.

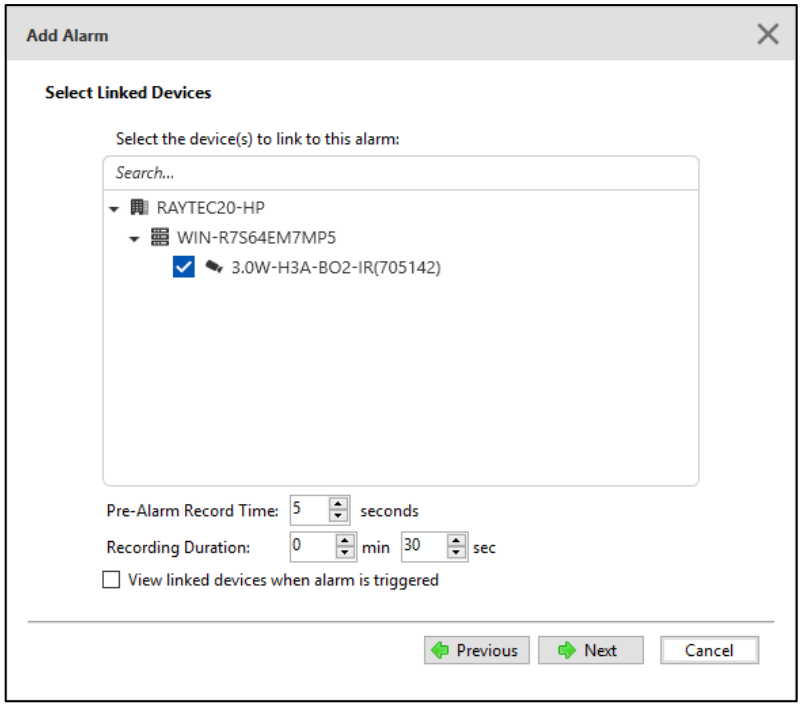
Press the *Add* button to add the new alarm.




Select the alarm trigger source to be *Motion Detection*. Select the camera for the source of this trigger.

Ensure the *Auto-acknowledge alarm when motion stops* check box is checked.

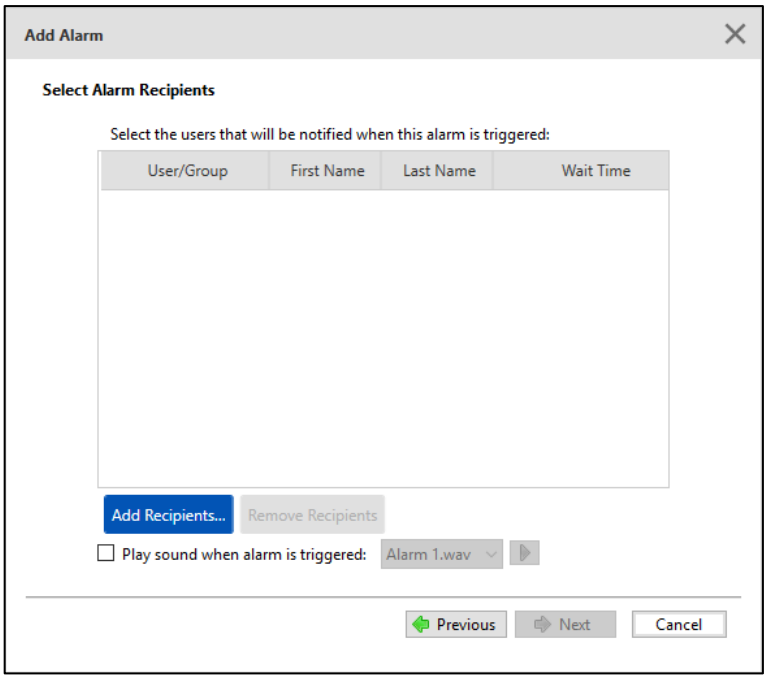
Press the *Next* button to continue.




Here you must link a camera to the alarm. Adjust this recording time as required for your application.

Press the *Next* button to continue.

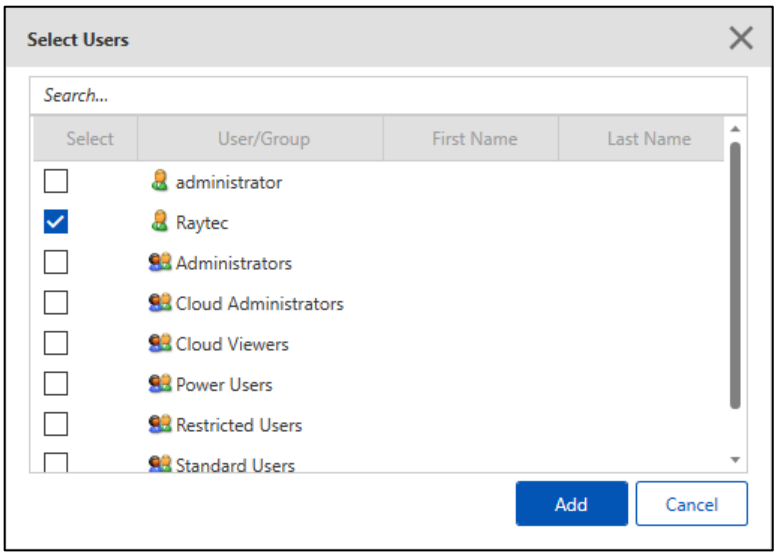
We will now configure recipients for the alarm. For the alarm to be handled by the *Raytec Avigilon Integration*, the user created in section 2.2 (and subsequently used by the *Raytec Avigilon Integration* to connect to *Avigilon Unity*) must be added as a recipient of the alarm.



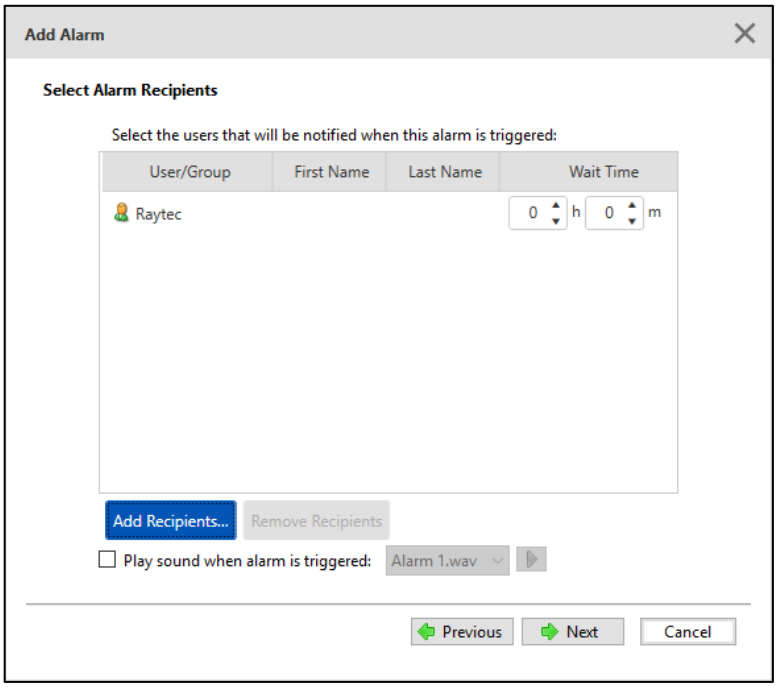

Press the *Add Recipients* button to add a recipient.

Select the *Raytec* user. This is the user we configured in section 2.2.

You may add other users as required.

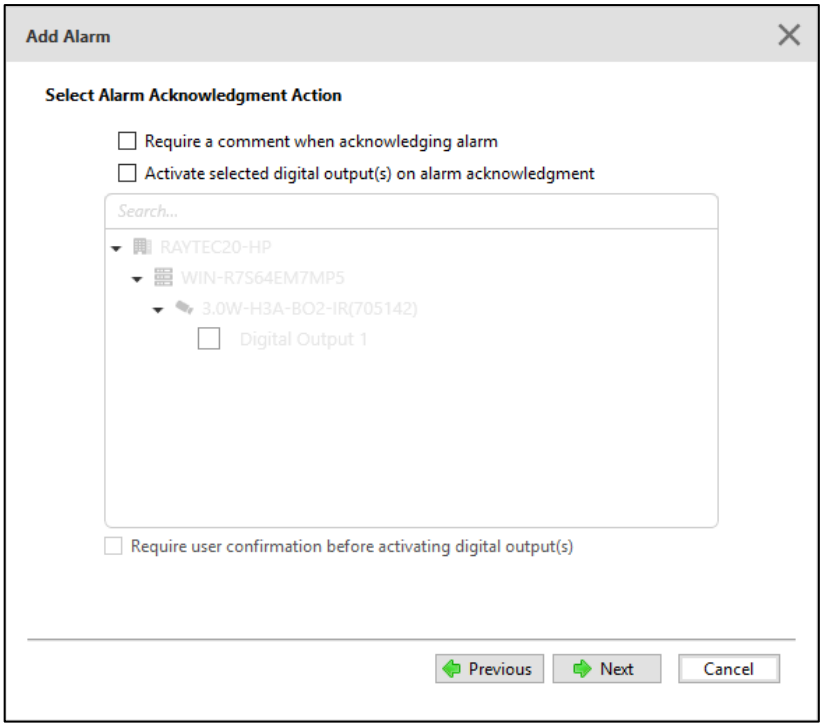



Press the *Add* button to continue.



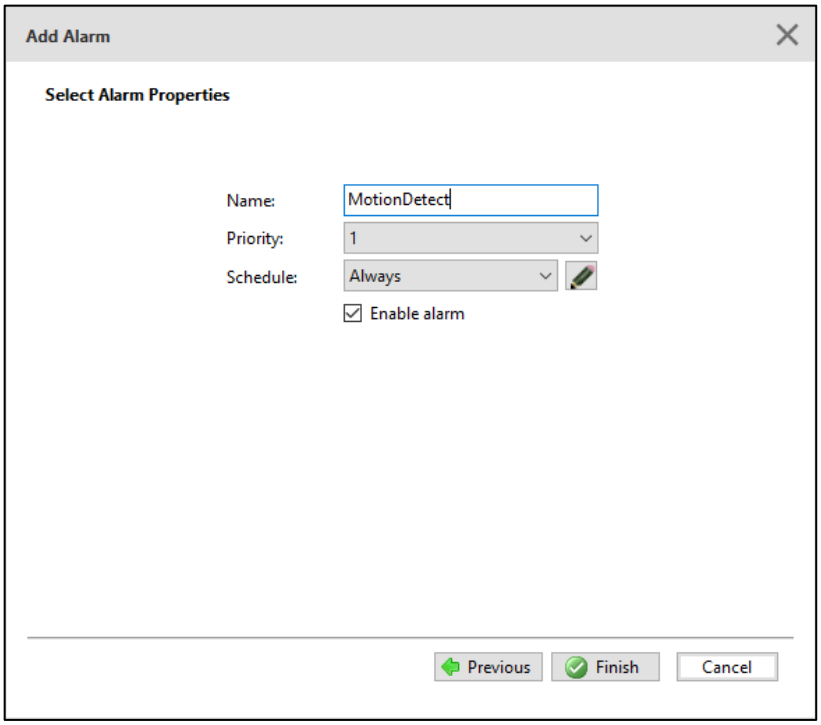

The default *Wait Time* of 0h, 0m is sufficient for this alarm.

Once all alarm recipients have been added press the *Next* button to continue.




Set the alarm acknowledgment actions as required. Unlike, the alarms which have the *external software event* as the trigger source, there is no requirement for the '*Require a comment when acknowledging alarm'* to remain unchecked.

Press the *Next* button to continue.

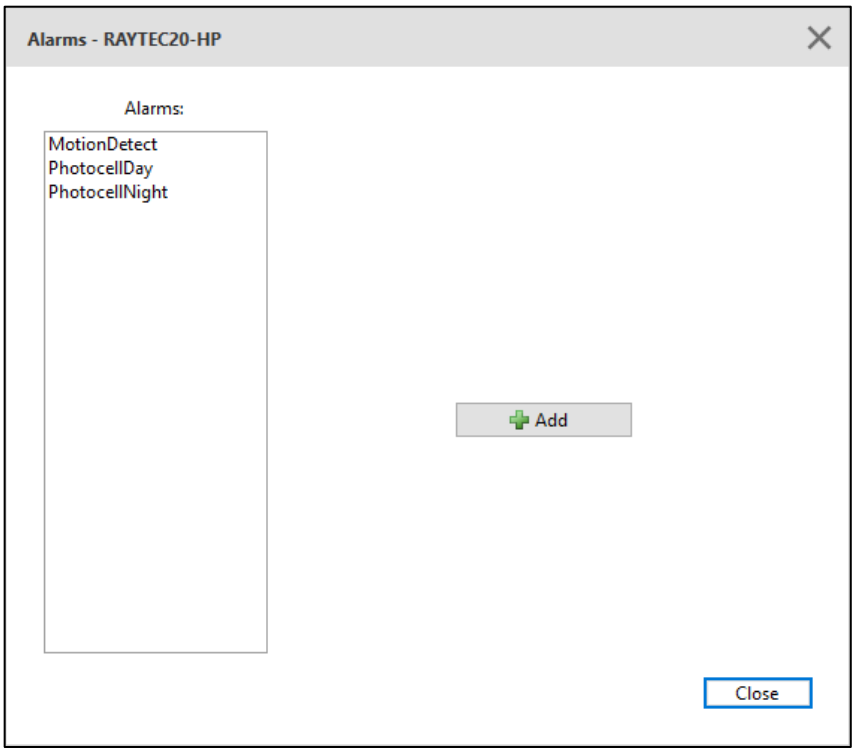



Set the name of the alarm to *MotionDetect*.

The priority should be set to *1* and the schedule should be *always.*

Ensure the *Enable alarm* check box is checked.

Click the *Finish* button to complete the process of adding the alarm. The new alarm will be displayed in the alarms list.



# 6 Raytec Avigilon Integration - Configuring Lamp Event to Alarm Mappings

In the *Raytec Avigilon Integration* application we will now configure some lamp events to *Avigilon Unity* alarm mappings. This will allow any lamp photocell or external input event to trigger an alarm in *Avigilon Unity*.

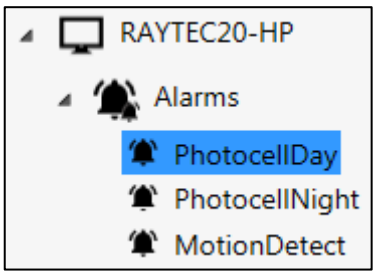
You should only map events to an *Avigilon Unity* alarm which was created that has its source trigger set as *external software event*. Of the alarms that were created in section 5, *PhotocellDay* and *PhotocellNight* alarms are of this type and so should be used. The *MotionDetect* alarm is not of this type and should not be used in any alarm mappings.

## 6.1 Map a Photocell Day Lamp Event to an Avigilon Alarm

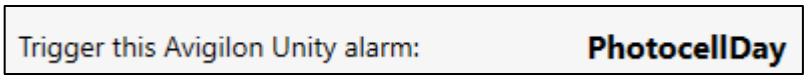
Firstly, we will create a mapping that will map the photocell inactive (day) event of a lamp to the *Avigilon Unity* alarm we created earlier called *PhotocellDay.*

We currently have two single wavelength lamps (*VARIOIP, VARIOIP2)* in a group called *Default,* and two hybrid lamps (*HYBRIDIP*, *HYBRIDIP2*) in a group of the same name. We will map the photocell inactive event of all lamps to the Avigilon alarm called *PhotocellDay*.

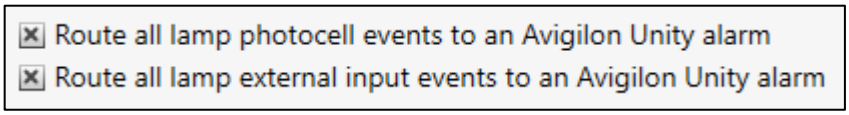
In the *Raytec Avigilon Integration* application select the *PhotocellDay* alarm node.




The right-hand side of the application will indicate this alarm is selected to be triggered by a lamp event.




Ensure the two check boxes to route all lamp photocell events and lamp external input events are checked.

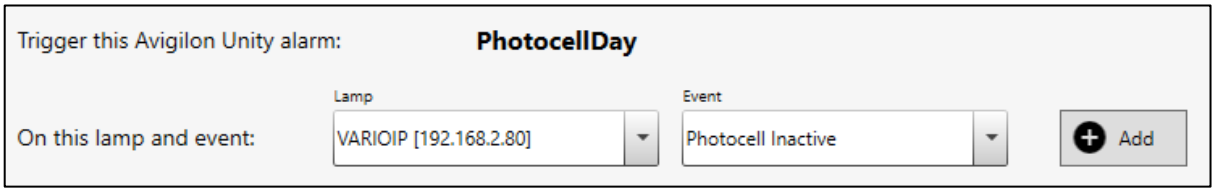



If any of these are unchecked then the corresponding events will not be shown in *Event* selection boxes.

When the user unchecks any of these check boxes, any currently configured lamp event to alarm mappings that use the unchecked event will be removed from the configuration.

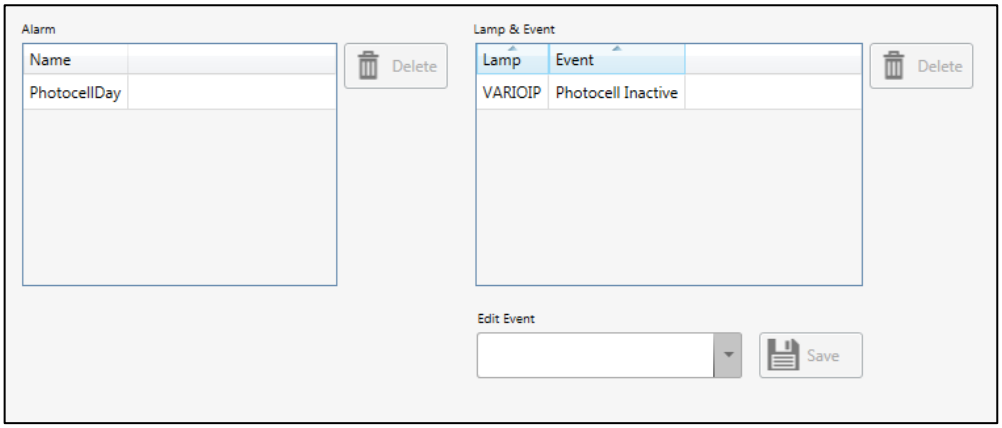
Now we will begin mapping each lamp event to the alarm.

Open the *Lamp* selection box and select the *VARIOIP* lamp and then open the *Event* selection box and select the *Photocell Inactive* event.

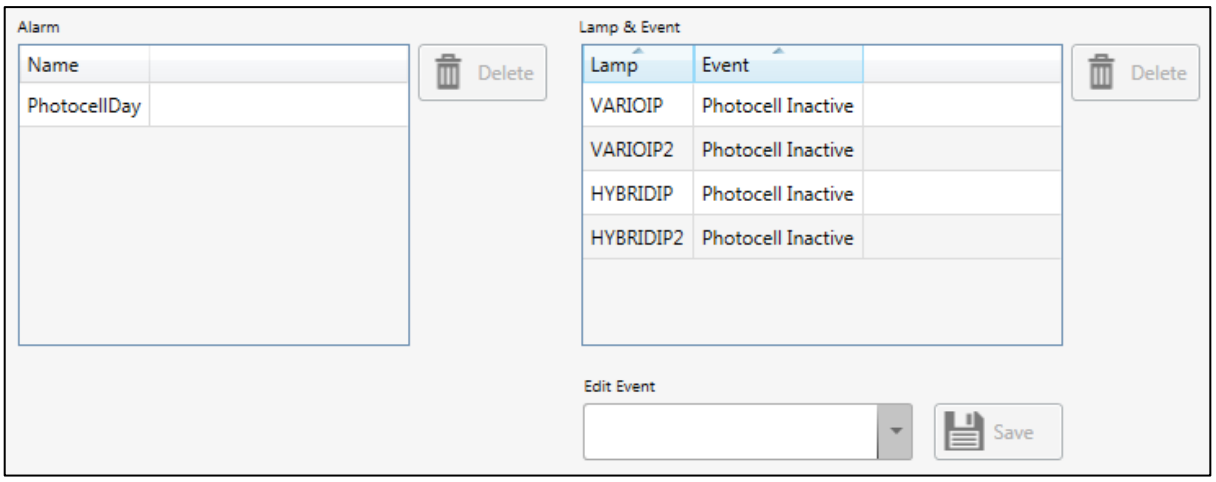



Press the *Add* button to add this lamp event to alarm mapping.

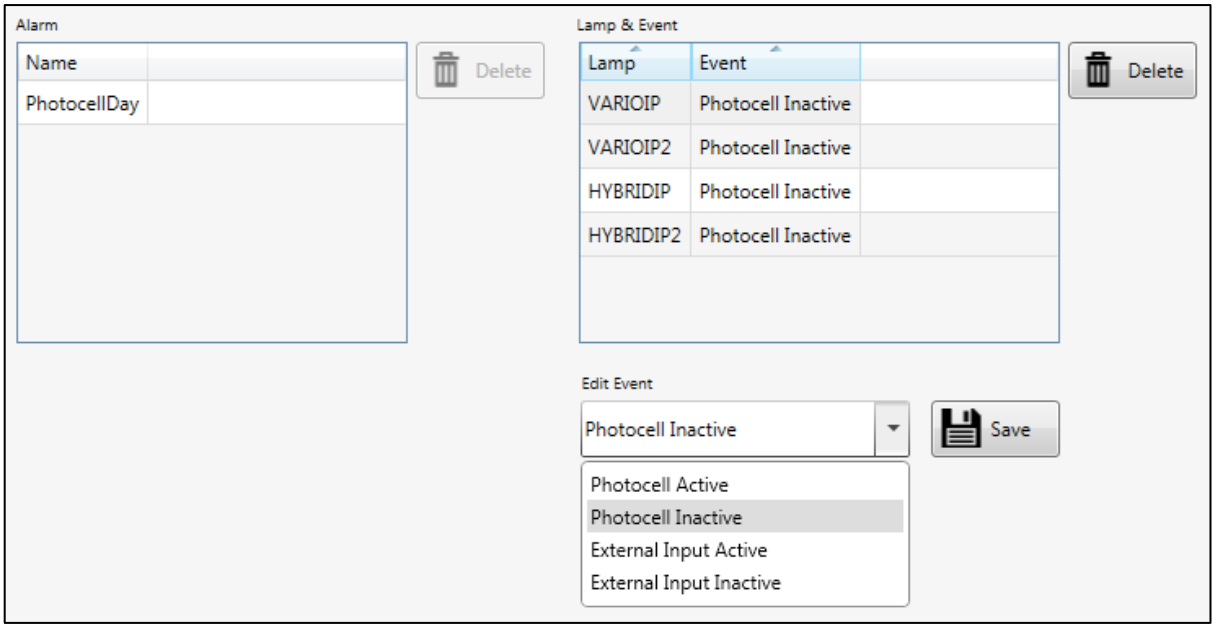
The mapping will be displayed in the *Alarm* and *Lamp & Event* list boxes.




Repeat this process for *VARIOIP2*, *HYBRIDIP* and *HYBRIDIP2*; you should then see the following:




If at any time the event for a given lamp needs to be edited, select the item row in the *Lamp & Event* list box. This will enable the *Edit Event* selection box. Select the event you wish to change to and then press the save button.




If at any time you need to delete an item in the *Lamp & Event* list box, select it first and then press the *Delete* button to the right of the *Lamp & Event* list box.

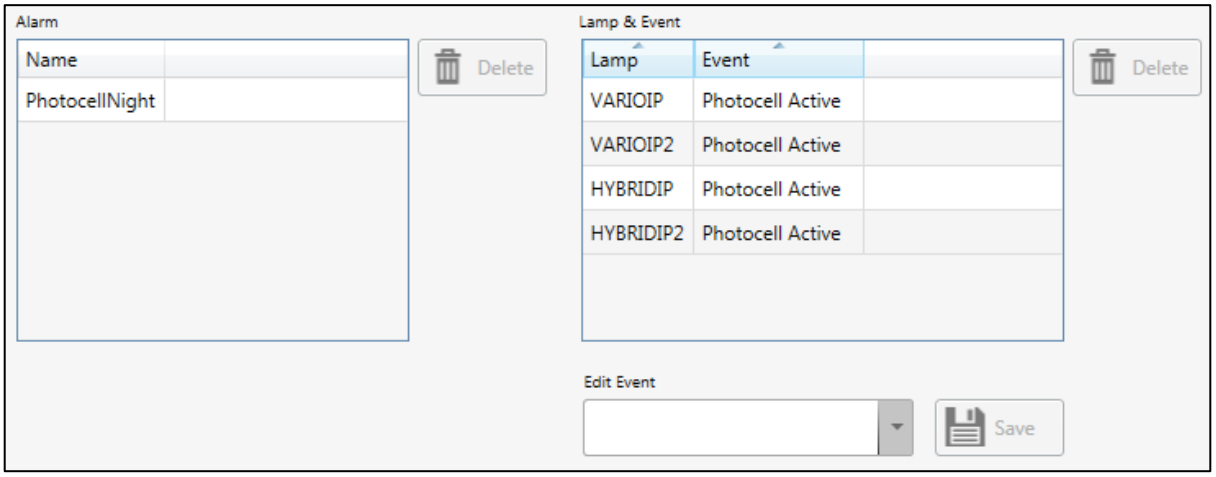
If at any time you need to delete an alarm mapping, select the alarm in the *Alarm* list box and press *Delete* button to the right of the *Alarm* list box.

## 6.2 Map a Photocell Active Lamp Event to an Avigilon Alarm

Using the same method outlined in section 6.1 we will create the following lamp event to alarm mapping.

- Trigger *PhotocellNight* alarm when *VARIOIP Photocell Active* event occurs
- Trigger *PhotocellNight* alarm when *VARIOIP2 Photocell Active* event occurs
- Trigger *PhotocellNight* alarm when *HYBRIDIP Photocell Active* event occurs
- Trigger *PhotocellNight* alarm when *HYBRIDIP2 Photocell Active* event occurs

Once the lamp event to alarm mapping has been created the *Alarm* and *Lamp & Event* list boxes will look like the following.



### 6.3 Map an External Input Inactive Lamp Event to an Avigilon Alarm

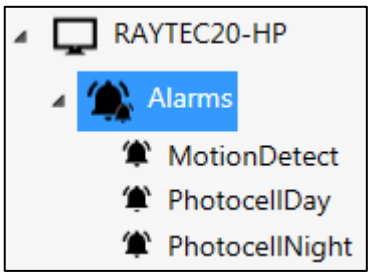
The same process detailed in section 6.1 is used to map a lamp external input inactive event to an *Avigilon Unity* alarm. Just ensure the lamp event selected is *External Input Inactive*.

### 6.4 Map an External Input Active Lamp Event to an Avigilon Alarm

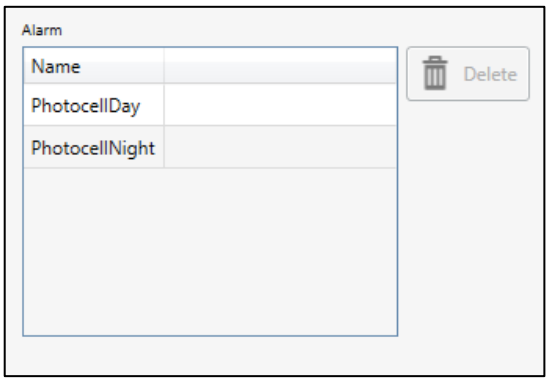
The same process detailed in section 6.1 is used to map a lamp external input active event to an *Avigilon Unity* alarm. Just ensure the lamp event selected is *External Input Active*.

### 6.5 View Current Lamp Event to Alarm Mappings

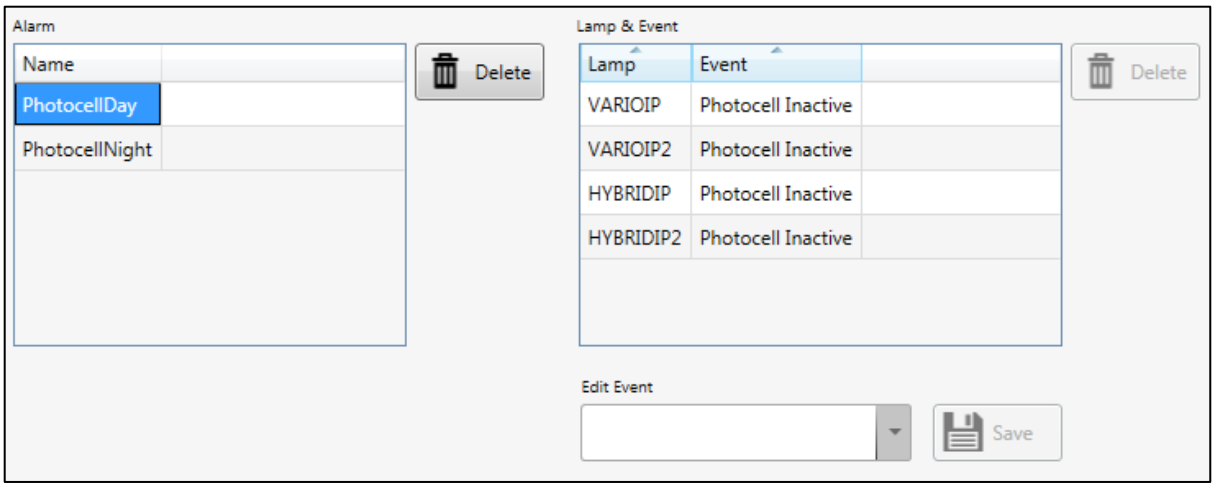
To view which alarms have a lamp event mapping applied to them, select the *Alarms* node in the tree view.




The *Alarms* list box will show which alarms have a mapping applied.



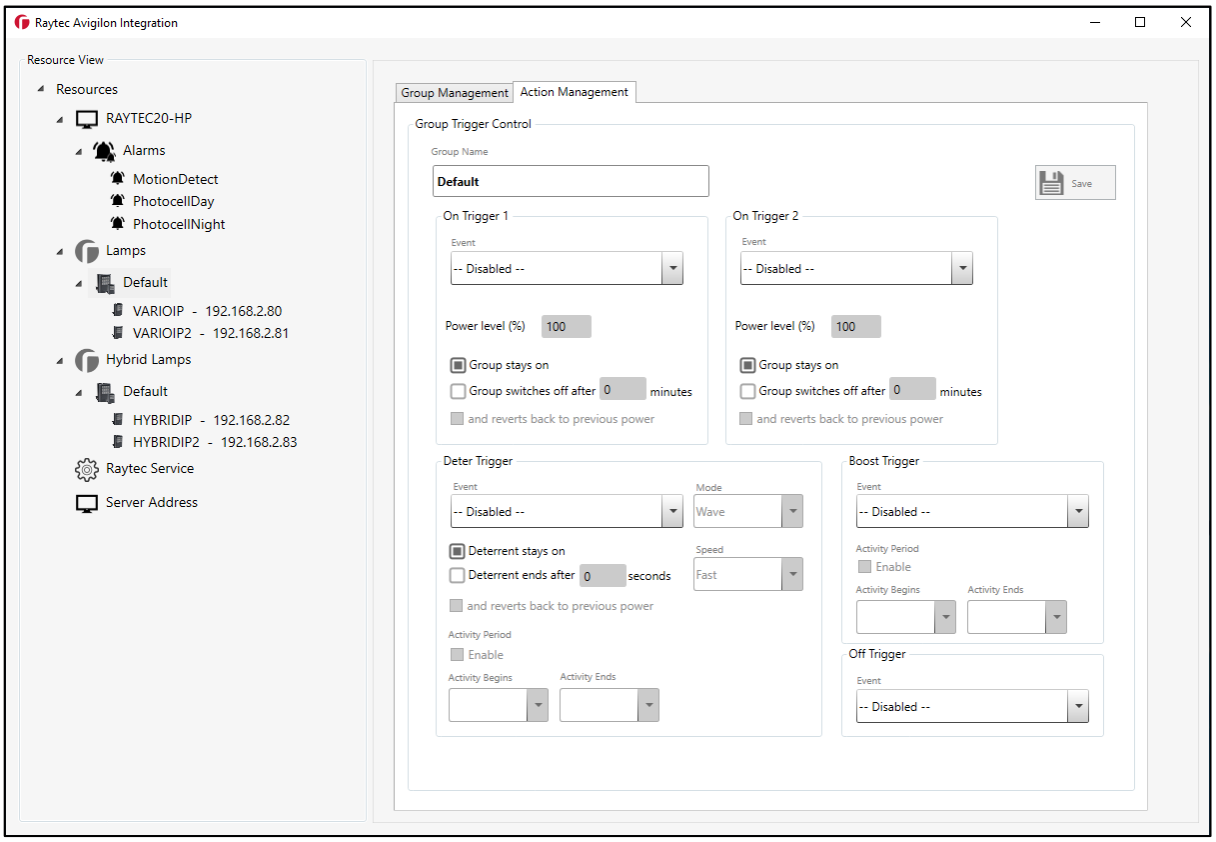
When an item is selected in the *Alarms* list box the *Lamp & Event* list box will show which specific lamp and events are mapped to this alarm.



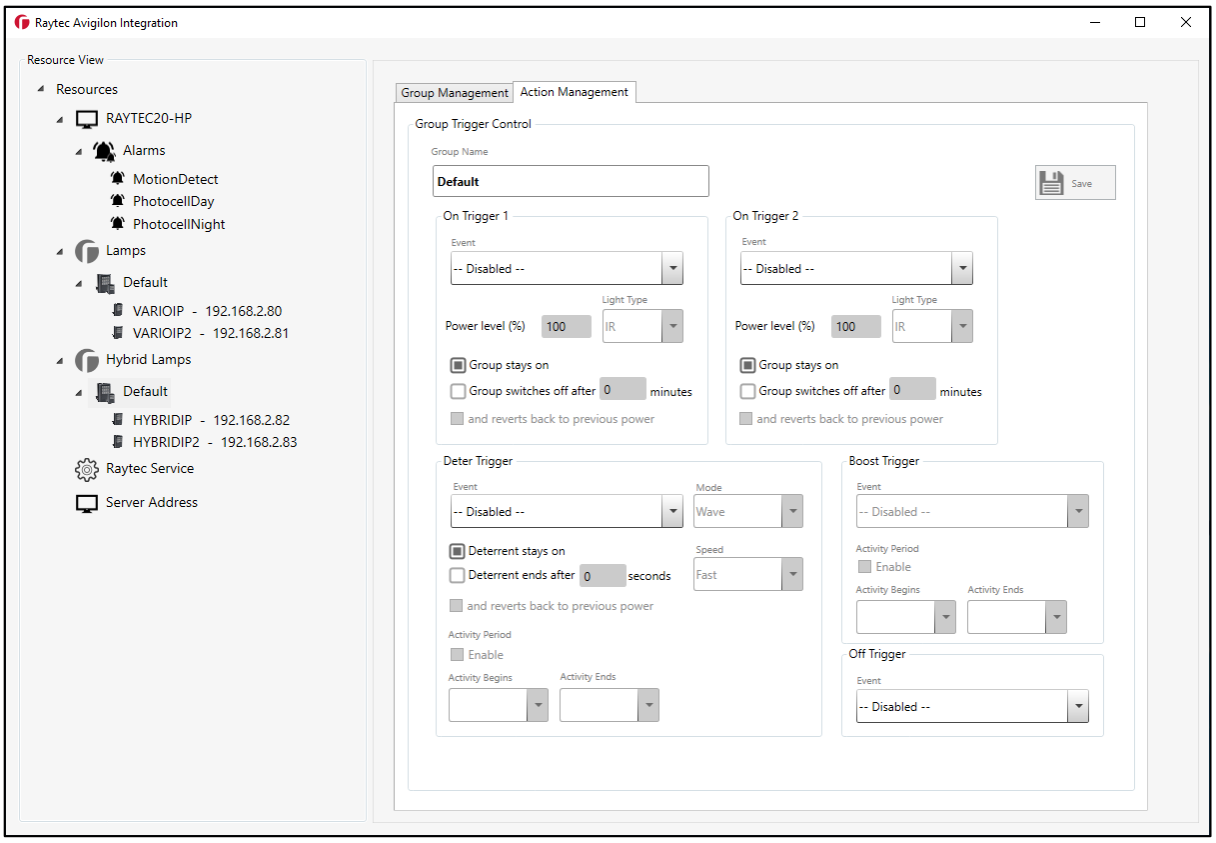
# 7 Raytec Avigilon Integration - Configuring Lamp Event Actions

## 7.1 Action Management

Select a lamp group node in the tree view. In the example below we have selected the *Default* group under *Lamps*. In the tab control on the right-hand side of the application, select the *Action Management* tab.

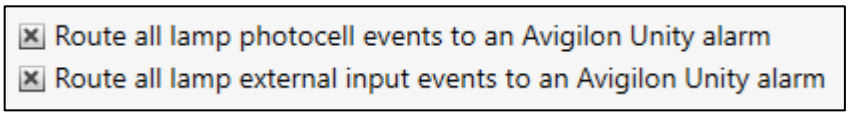


If you choose a group under the *Hybrid Lamps* branch, you will see a slightly different *Action Management* tab:




We can configure lamps to do any number of actions based on *Avigilon Unity* alarms or lamp events.

It should be noted that the *Event* selection boxes will exclude any lamp-based events if the corresponding checkbox is checked.




## 7.2 Action Triggers

The same action triggers are available for groups and individual lamps. If a group is assigned a trigger and then the lamp within that group is individually assigned another trigger, the group trigger will be processed first and then the individual lamp trigger will be processed.

The available action triggers are:

- On Trigger 1
- On Trigger 2
- Deter Trigger
- Boost Trigger – not available for hybrid lamps / groups
- Off Trigger

***On Trigger 1, On Trigger 2***

*On Trigger 1* and *On Trigger 2* have the following properties:

- Event – *the source for the trigger*
- Power level (%) – *the power level value between 20 and 100*
- Light Type - *The wavelength to switch on (hybrid lamps only)*
- Group / Lamp stays on –*the group / lamp stays on when the event occurs*
- Group / Lamp switches off after *n* minutes – *n is a value between 0 and 1092*
- and reverts back to previous power – *after n minutes the previous power level is set*

***Deter Trigger***

The *Deter Trigger* has the following properties:

- Event – *the source for the trigger*
- Mode – *the deterrent mode (Wave, Hi-Lo or SOS)*
- Speed – *the deterrent mode speed (Fast, Medium or Slow)*
- Deterrent stays on – *the group / lamp deterrent stays on when the event occurs*
- Deterrent ends after *n* seconds – *n is a value between 0 and 65535*
- and reverts back to previous power – *after n seconds the previous power level is set*
- Activity period enable – *only enable this trigger if the trigger event occurred between 'Activity Begins' and 'Activity Ends'*
- Activity Begins – *the start event for the activity period enable window*
    - *This can be any one of On Trigger 1, On Trigger 2 or Off Trigger*
- Activity Ends – *the end event for the activity period enable window*
    - *This can be any one of On Trigger 1, On Trigger 2 or Off Trigger*

This triggers the White light (WL) wavelength when used for hybrid groups and lamps.

***Boost Trigger – not available for hybrid lamps / groups***

The *Boost Trigger* has the following properties:

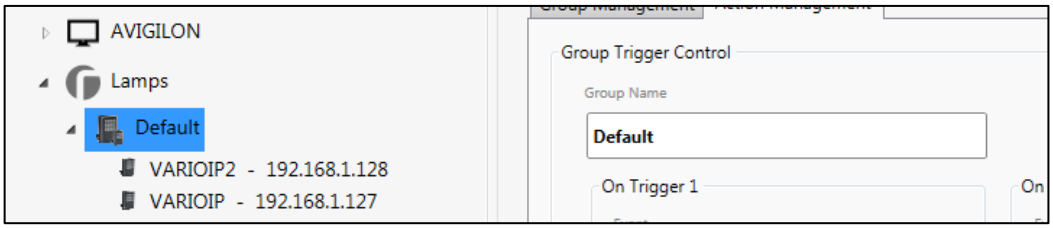
- Event – *the source for the trigger*
- Activity period enable – *only enable this trigger if the trigger event occurred between 'Activity Begins' and 'Activity Ends'*
- Activity Begins – *the start event for the activity period enable window*
    - *This can be any one of On Trigger 1, On Trigger 2 or Off Trigger*
- Activity Ends – *the end event for the activity period enable window*
    - *This can be any one of On Trigger 1, On Trigger 2 or Off Trigger*

***Off Trigger***

- Event – *the source for the trigger*

## 7.3 Configure Group Triggers

To configure triggers for groups firstly select the group node you wish to set the triggers for. In the example below we have selected the group called *Default* under *Lamps*. Note that the *Group Name* text box shows the currently selected group.




The triggers we will set up are the following:

- Group will come on at 100% level when the *PhotocellNight* alarm event occurs
- Group will switch off when the *PhotocellDay* event occurs
- Group will enter deter mode when the *MotionDetect* alarm event occurs
    - This will only happen at night
    - The deter mode will be *Wave*
    - The deter mode speed will be *Fast*
    - The deter mode will be active for 2 minutes and revert to the previous power level

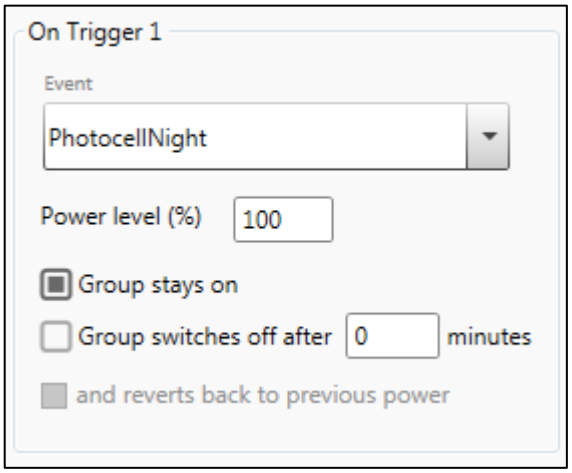
To create this configuration we will configure the *On Trigger 1, Off Trigger* and *Deter Trigger*.

***On Trigger 1***

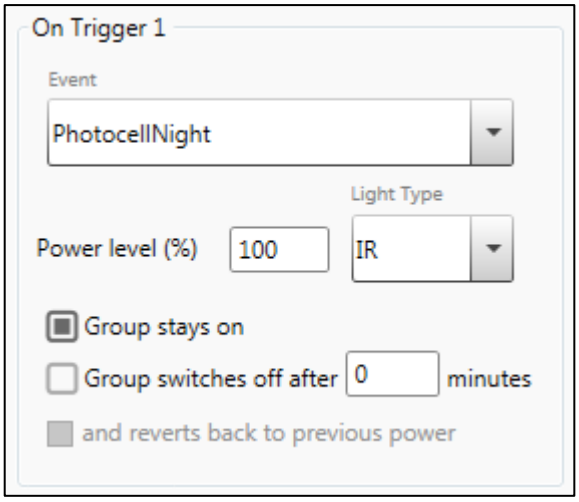
In the *On Trigger 1 -> Event* selection box, select the *PhotocellNight* alarm.

Ensure the *Power level* is set to 100.

Ensure the *Group stays on* radio button is selected.




If you are configuring a hybrid group under *Hybrid Lamps*, you have to set the Light Type here too, in the example below we have selected *IR*.




Press the *Save* button when finished.

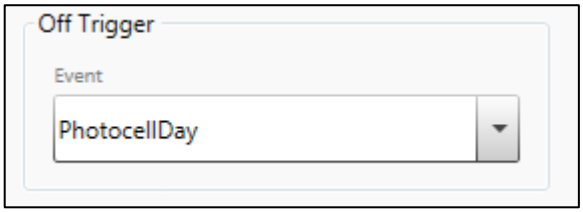
Once the changes have been saved the *Raytec Avigilon Service* will detect these changes and load the new settings. This process will take around 20 seconds from the time the changes are made to the new settings taking effect. This is true for any changes made to any settings.

When a *PhotocellNight* alarm is triggered in *Avigilon Unity,* the lamp group will turn on at a level of 100%.

The *PhotocellNight* alarm is triggered in *Avigilon Unity* when the photocell becomes active on any lamp we configured in section 6.2 earlier.

***Off Trigger***

In the *Off Trigger -> Event* selection box, select the *PhotocellDay* alarm.




Press the *Save* button when finished.

Once the changes have been saved the *Raytec Avigilon Service* will detect these changes and load the new settings. This process will take around 20 seconds from the time the changes are made to the new settings taking effect.

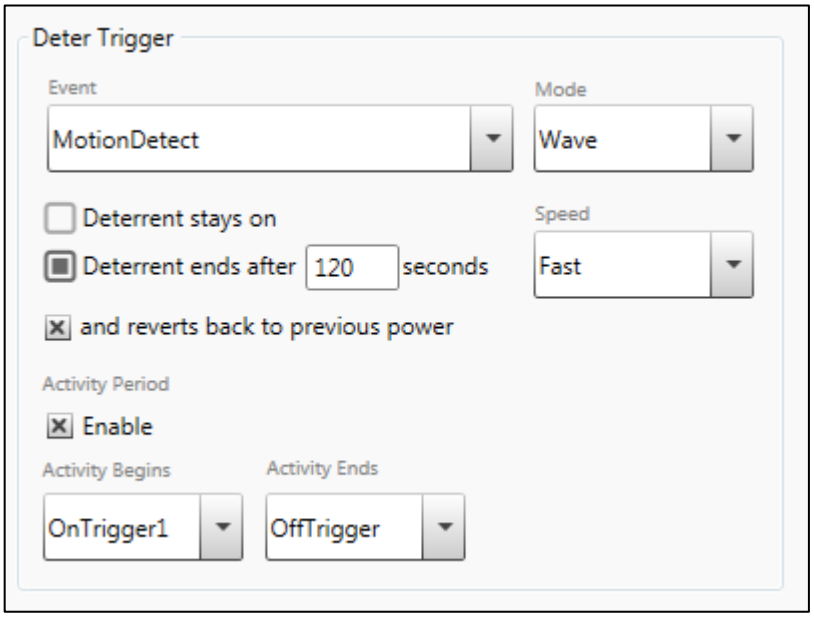
When a *PhotocellDay* alarm is triggered in *Avigilon Unity,* the lamp group will turn off.

The *PhotocellDay* alarm is triggered in *Avigilon Unity* when the photocell becomes inactive on any lamp we configured in section 6.1 earlier.

***Deter Trigger***

On the *Deter Trigger -> Event* selection box select the *MotionDetect* alarm.

Set the other fields as per the screengrab below:

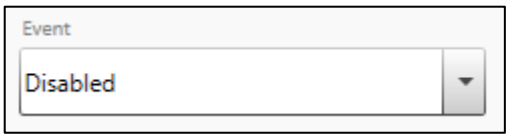



Press the *Save* button when finished.

Once the changes have been saved the *Raytec Avigilon Service* will detect these changes and load the new settings. This process will take around 20 seconds from the time the changes are made to the new settings taking effect.

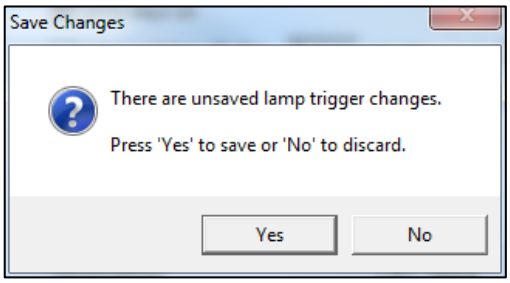
When the camera associated with the *MotionDetect* alarm in *Avigilon Unity* detects motion, the group will go into *Deter Mode* for 120 seconds. After 120 seconds, the power level for the group will revert back to the previous value. The group will only go into *Deter Mode* if the *OnTrigger1* has occurred and the *OffTrigger* has not occurred, i.e. during the night.

To disable any trigger, select *Disabled* from the *Event* selection box of the associated trigger.




Press the *Save* button to disable the trigger.

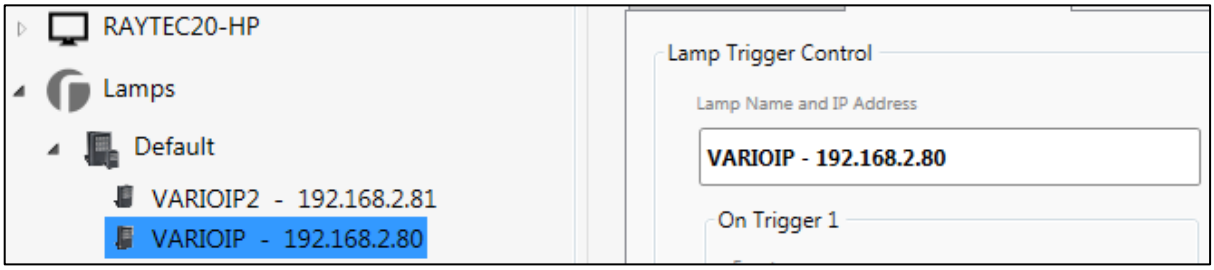
If at any time you have any unsaved changes in the trigger configuration and navigate away from the current screen, you will be asked about saving those changes first or discarding them.




## 7.4 Configure Lamp Triggers

Individual lamp triggers are configured using exactly the same procedure as group triggers, detailed in section 7.3.

To begin configuring a lamp trigger, first select the lamp node in the tree view.




The selected lamp will be displayed in the *Lamp Name and IP Address* text box.

As previously mentioned, the procedure for configuring individual lamp triggers is exactly the same as that for configuring group triggers, as detailed in section 7.3.

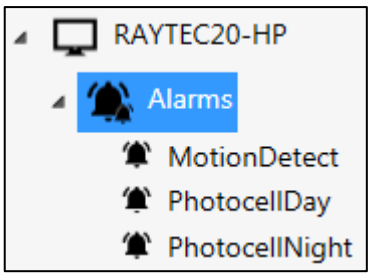
It should be noted that if a group has triggers configured and an individual lamp within that group has triggers configured, group triggers will be processed first followed by individual lamp triggers.

## 7.5 Configure Lamp Events that bypass Avigilon Unity

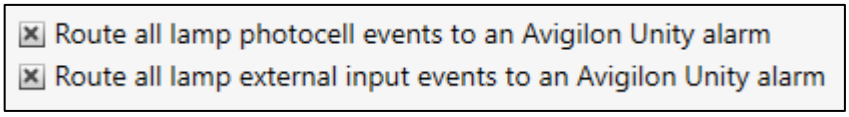
The trigger configurations described in sections 7.3 and 7.4 all used lamp events (photocell and external input) that were mapped to *Avigilon Unity* alarms. The lamp actions were then configured based on these *Avigilon Unity* alarms.

It is possible to have these lamp events handled directly by the *Raytec Avigilon Service* and not mapped to an *Avigilon Unity* alarm.

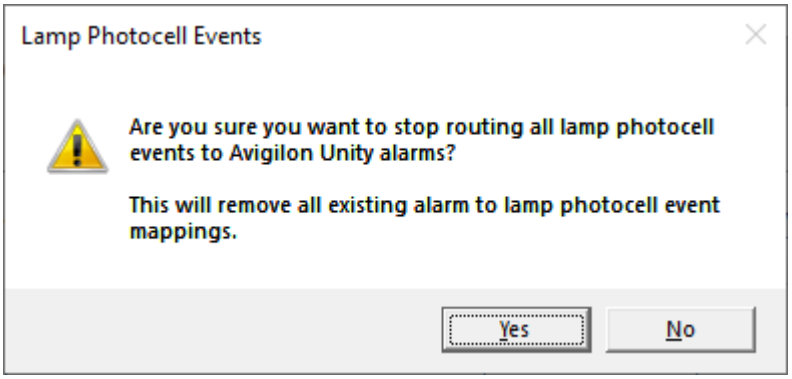
To do this, first select the Avigilon *Alarms* node in the tree view.

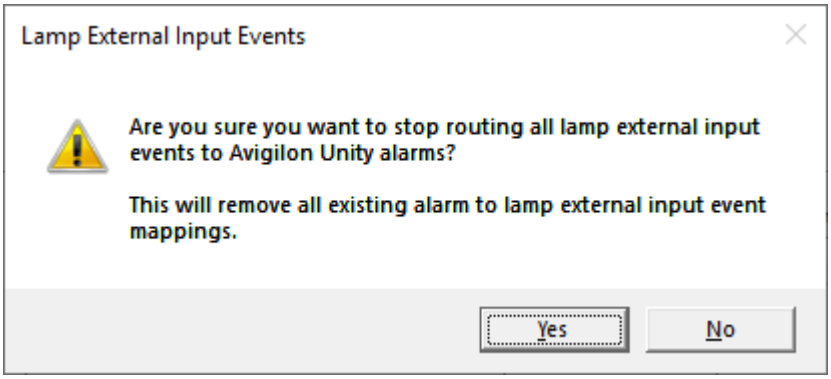



To allow photocell events and external input events to be handled directly by the *Raytec Avigilon Service* uncheck the check boxes below.



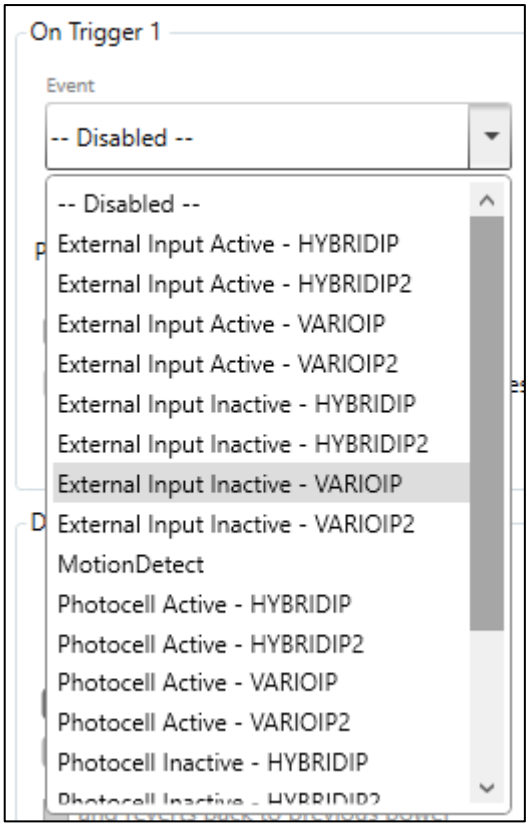

When you uncheck these check boxes you will be warned that any current lamp to alarm mappings will be removed.




When these check boxes are unchecked, lamp photocell and external input events will now appear as available event sources that can be selected as a trigger for a lamp action.

Note: Existing *Avigilon Unity* alarms that may have previously been mapped to a lamp event will still be available as an event source trigger. It is only the lamp event to alarm mapping that has been removed and not the alarm itself.



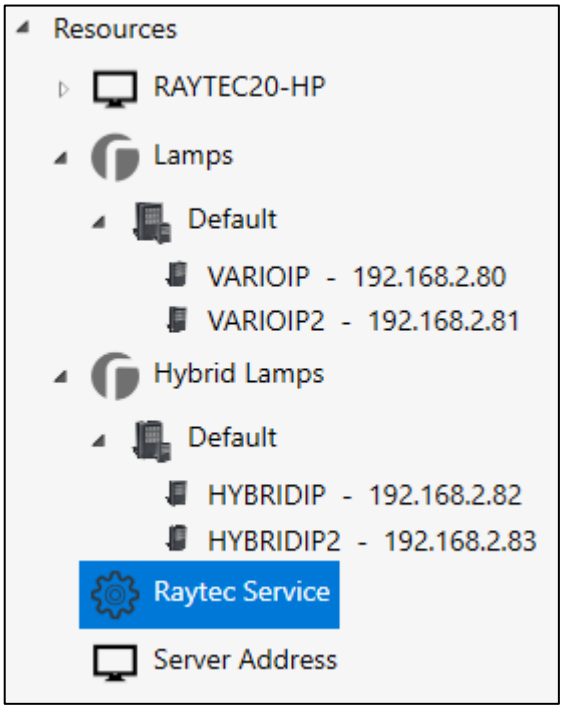

The configuring of group triggers and individual lamp triggers can now be carried out as detailed in sections 7.3 and 7.4. The difference now is that the event source trigger selection box now includes lamp events.

# 8 Raytec Avigilon Service Status

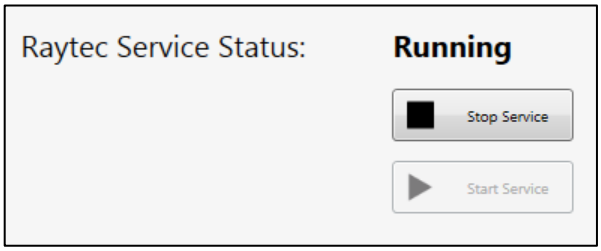
The *Raytec Avigilon Service* is a core component of the *Raytec Avigilon Integration*. This service must be running for the integration to work correctly.

This service is configured to start automatically when installed and whenever the Windows operating system restarts.

To check of the status of the service open the *Raytec Avigilon Integration* and select the *Raytec Service* node.




The right-hand side of the application will show whether or not the service is running and provides two buttons to start and stop the service.



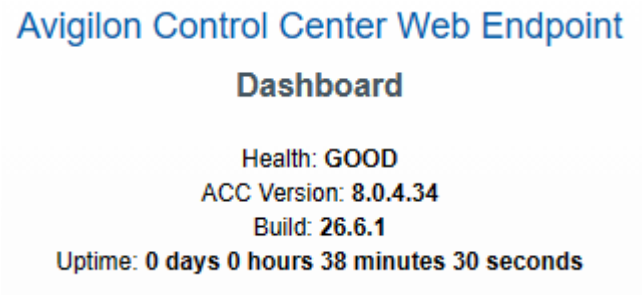

In some situations it may be necessary to stop and restart the *Raytec Avigilon Service* when trying to troubleshoot any problems controlling the lamps.

# 9 Troubleshooting and Customer Support

## 9.1 I don't have any sites to select from

### *Check for presence of Web EndPoint*

Ensure the Avigilon server has the Web EndPoint installed. Enter https://localhost:8443 into a browser on the Avigilon Server and check that you get something similar to below:




If you have changed the Web EndPoint port then you will need to replace 8443 above with the port you have specified.

### *Ensure you have Server Address configured correctly*

See section 2.3 for details on how to do this.

## 9.2 I can login to a site, but no alarms are listed under the Avigilon Server in the tree.

In this instance, ensure that you have an Enterprise license of *Avigilon Unity*. The *Raytec Avigilon Integration* is not compatible with Standard and Core licenses, but you may see partial functionality in the *Raytec Avigilon Integration* if you have a Standard or Core license, such as seeing the Server appear but no alarms.

## 9.3 My lamp does not respond to commands or events.

### *Illuminator firmware*

Ensure the firmware running on your illuminator(s) is the version specified below or higher.

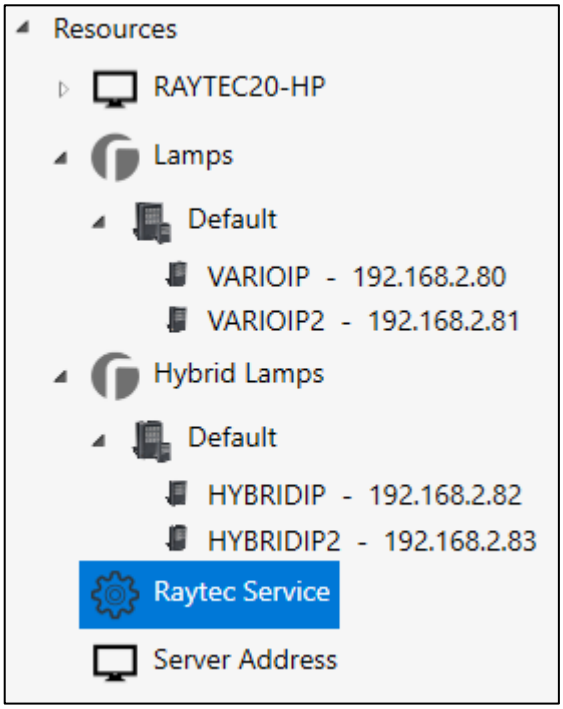
| Illuminator | Minimum supported firmware version |
|---|---|
| Vario IP POE | v1.1.0 |
| Vario2 IP POE | v2.0.1 |
| Vario2 Hybrid IP POE | v3.1.0 |

### *IP Address Assignments*

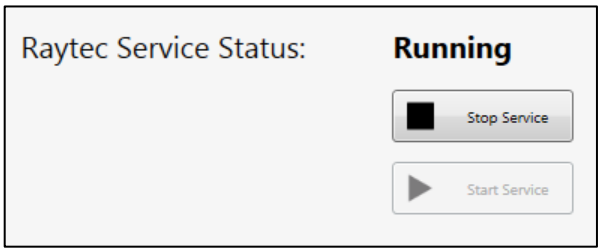
Ensure the lamp IP addresses are configured correctly as outlined in section 1.4 *Lamp Network IP Address Assignment*.

### *Raytec Service Status*

Ensure the *Raytec Avigilon Service* is running. To do this open the *Raytec Avigilon Integration* and select the *Raytec Service* node.



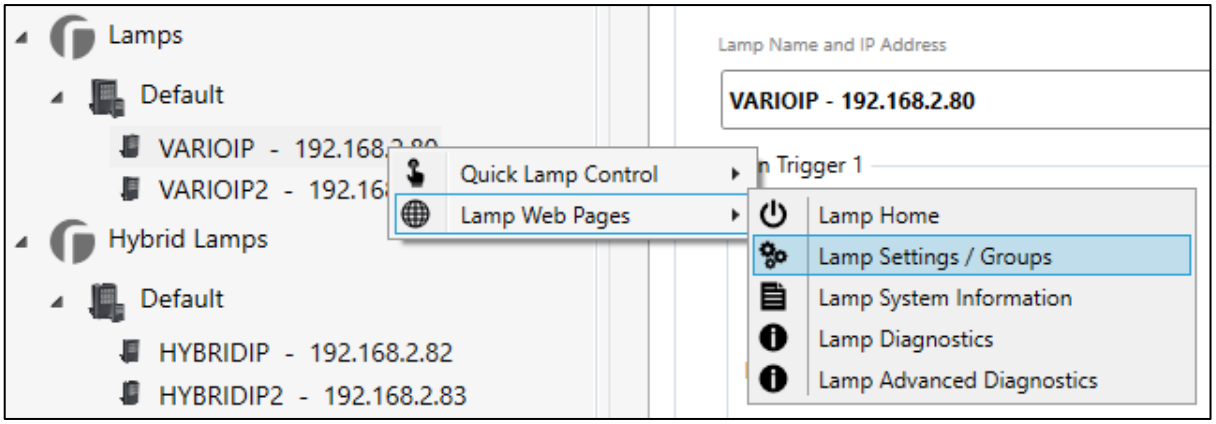

Verify that the service status value is ‘running’.




If it is not, press the *Start Service* button to start the service running.

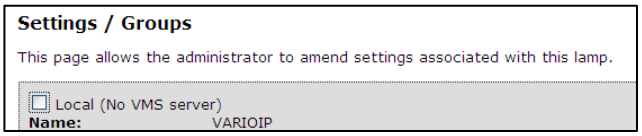
### *Lamp Settings*

Ensure the lamp is in **VMS** or **VMS + local** mode. To do this right click on the lamp node and select the *Lamp Web Pages -> Lamp Settings / Groups* menu option.



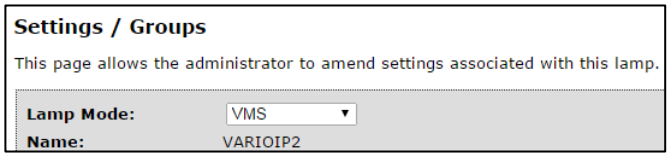

This will open the lamp settings web page. This page may look slightly different depending on which firmware version the lamp is running.

For lamps running firmware v1.1.x:




Ensure the *Local (No VMS server)* checkbox is not checked.

For lamps running firmware v1.2.x and above:

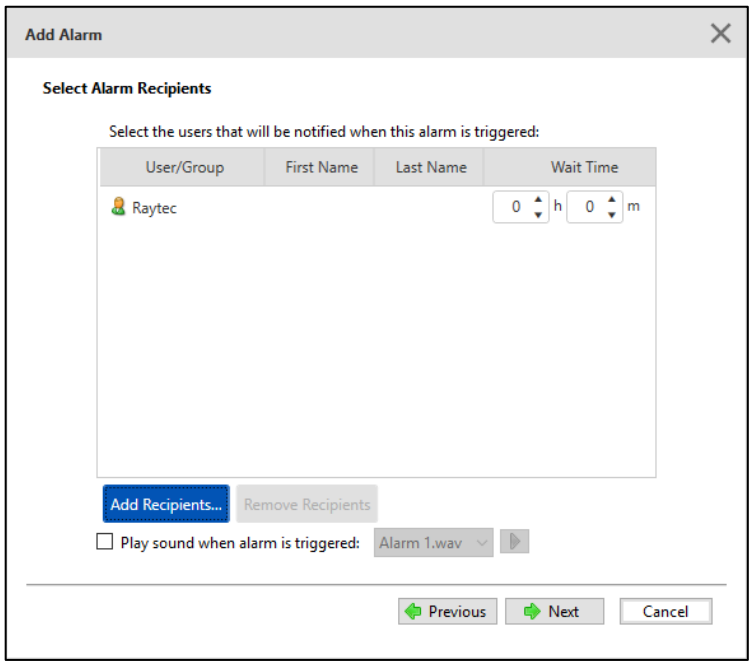



Ensure *VMS* or *VMS + local* is selected in the selection box.

## 9.4 My lamp does not respond to Avigilon Unity alarms.

### *Avigilon Unity Alarm Recipients*

Ensure the user account created in *Avigilon Unity*, as detailed in section 2.1, has been added as an alarm recipient. In our examples in section 5 we added the *Raytec* user, as shown below.




### *Raytec Avigilon Integration User Account Details*

Ensure the user configured in section 2.1 (and shown above), is configured as the *Raytec Avigilon Integration* Avigilon Server login user, as detailed in section 2.2.